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Smithsonian

**FY 2012 Budget Summary Justification
to OMB**

September 2010

ADMINISTRATIVELY CONFIDENTIAL

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SMITHSONIAN INSTITUTION
Fiscal Year 2012 Budget Request to OMB
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THE SMITHSONIAN INSTITUTION: A NEW ERA

Armed with a bold Strategic Plan that is interdisciplinary, collaborative, and entrepreneurial, the Smithsonian has entered a new era of transformative change. The Institution has a crucial role to play in the civic, educational, scientific, and artistic life of this nation. More than ever before, the Smithsonian is involved in the vital issues of the day.

The Strategic Plan focuses on four “Grand Challenges”: 1) Unlocking the Mysteries of the Universe; 2) Understanding and Sustaining a Biodiverse Planet; 3) Valuing World Cultures; and 4) Understanding the American Experience. We have named directors for our four new Consortia, which, along with our museums, research centers and programs, will address the four Grand Challenges. The Consortia will help foster a spirit of interdisciplinary collaboration that stimulates intellectual exchange within the Smithsonian and beyond. Already, the Consortia directors have issued a call for proposals for our trust-funded Grand Challenges Awards.

In addressing these challenges, the Smithsonian is committed to broadening access to new and diverse audiences by using new technologies; strengthening the breadth and depth of its collections; revitalizing formal and informal education; working across disciplines; and pursuing excellence in all we do.

The Strategic Plan calls for the Institution to “shape the future by preserving our heritage, discovering new knowledge, and sharing our resources with the world.” Accordingly, we have structured our recent budget requests around these themes and reformed our organization so that we can achieve our ambitious goals.

The results of the Institution’s Strategic Plan are evident already in how Smithsonian scientists assess the consequences of climate change; keep aircraft safe from bird strikes; document and control invasive species; assist the armed forces in keeping our soldiers safe from insect-borne disease; provide data on the impact of the Deepwater Horizon oil spill; and more. The Institution has unmatched capacity to tackle biodiversity issues. For example, the Smithsonian Institution Global Earth Observatories network created a worldwide partnership to monitor the health and ongoing changes of millions of trees in more than 20 countries.

We also have an expansive science education initiative. For the past 25 years, the National Science Resources Center (NSRC) has leveraged the research and expertise of the Smithsonian and the National Academies of Science to develop science education programs. Similarly, the Smithsonian is working with the Department of Education on a number of projects, including the recently announced online Learning Registry. In addition, we are partnering with more than 20 local education authorities and universities on Department of Education Teaching American History Grants. To help coordinate these efforts, we recently hired our first-ever Director of Education.

We are reaching out to new audiences. The Smithsonian recently conducted three successful online education conferences: on President Lincoln, climate change, and access to Smithsonian experts. These conferences included 34 hours of live programming for 20,000 participants from 100 countries, all U.S. states and territories, more than 3,000 cities, and six continents.

The Institution now has more than 300 social media accounts and the number is growing rapidly. On our YouTube offerings, we have had more than 260,000 video views. The MEanderthal application at the National Museum of Natural History's Hall of Human Origins now has more than 125,000 downloads. Our Yves Klein exhibition application at the Hirshhorn Museum and Sculpture Garden is Apple's 12th most popular educational application. Dozens more will follow this year.

For 164 years, the Smithsonian has served our nation and the world as a source of inspiration, discovery, and learning. In these difficult economic times, the Smithsonian, with its free, open museums and remarkable array of information on our websites, has become an even more valuable resource for the American people.

The Smithsonian is the largest museum and research complex in the world. It is supported by authoritative scholarship that connects Americans to their cultural heritage and also makes the Institution an international leader in scientific research and exploration. The Smithsonian has 19 museums and galleries, 20 libraries, numerous research centers, and the National Zoological Park. All but two of the museums are located in the Washington, DC metropolitan area; Cooper-Hewitt, National Design Museum and the George Gustav Heye Center of the National Museum of the American Indian are located in New York City. In addition, the Smithsonian has physical facilities in eight states and the District of Columbia, and conducts operations in nearly 100 countries at sites ranging from the equator to both poles.

The Institution's collections include a remarkable 137 million artifacts, works of art, and scientific specimens. The Smithsonian preserves and displays many of our nation's treasures, as well as objects that speak to our country's unique inquisitiveness, bold vision, creativity, and courage: the Star-Spangled Banner, Edison's light bulb, the Wright flyer, Lewis and Clark's compass, Colin Powell's Desert Storm uniform, and Mark Twain's self-portrait.

Nearly 30 million people from across the country and around the world came to the Smithsonian during the past fiscal year (six million more than in 2008), and more than 188 million visited our various websites. The 30 million visits speak to the quality and relevance of the 90 new exhibitions the Smithsonian launched in 2009, and the hard work of everyone — from carpenters, curators, and historians to security officer and scientists — to make the Smithsonian an exciting, inspiring place. We want all those visits to become "journeys of discovery" as people continue to engage Smithsonian collections, curators, and educational resources on the Web.

The reach of everything the Smithsonian does is expanded exponentially by education and outreach programs. As an international institution, the Smithsonian offers the world a picture of America and America a picture of the world.

The Smithsonian has more than 6,000 federal and non-federal employees, including approximately 500 scientists, and more than 6,000 volunteers. Additionally, the Institution has 166 affiliate museums in 41 states, the District of Columbia, Puerto Rico, and Panama. The Smithsonian Institution Traveling Exhibition Service, the largest traveling exhibition service in the world, reaches roughly five million people nationwide each year. The Institution's reach is further expanded through Smithsonian Networks' Emmy Award-winning Smithsonian HD channel, which now reaches millions of households. This combination of volunteer support, philanthropic support, and our national and international reach makes the Smithsonian a worthy and important investment for the federal Government.

All this is possible because the Smithsonian has some of the best minds in the country, employing the most passionate, dedicated, and creative professionals in their fields. The support of the Administration, the Congress, and the American people is vital to all Smithsonian activities and the success of our mission.

Given these opportunities, challenges, and difficult budget realities, the Institution is becoming more innovative, disciplined, focused, nimble, and self-reliant than in the past. It faces a future that holds both exciting opportunities and imposing challenges.

We continue to work hard to raise private funds to complement our Federal appropriations in achieving the goals of our Strategic Plan. To this end, we are launching a national fundraising campaign, increasing our efforts to win Government grants, and investigating new business opportunities. All of these efforts are more effective because of our Federal appropriations.

The Smithsonian is presenting a two-level budget in this submission. The first is our requirements budget. It contains a modest 3 percent increase, specifically targets key tenets of our Strategic Plan, and reflects the minimum requirements needed to advance the Institution's goals. The second level is the guidance budget that is **9 percent** below our FY 2011 budget. Because most of the Institution's budget funds salaries and benefits, this level will result in the loss of hundreds of dedicated employees and will severely hinder our ability to implement our Strategic Plan. This level of reduction will also do severe disservice to the millions of people who rely on the Smithsonian for the "increase and diffusion of knowledge."

What follows is our plan to meet the Smithsonian's future challenges as efficiently and effectively as possible.

SMITHSONIAN INSTITUTION FY 2012 BUDGET REQUEST SUMMARY

<i>Account</i>	<i>FY 2011 Request</i>	<i>FY 2012 Request</i>
Salaries and Expenses	\$660,850,000	\$684,320,000
Facilities Capital (Less NMAAHC)	<u>136,750,000</u>	<u>136,750,000</u>
Total	\$797,600,000	\$821,070,000
Facilities Capital, National Museum of African American History and Culture		\$205,000,000
Total (including NMAAHC)		\$1,026,070,000

For FY 2012, the Smithsonian's request to fund essential operating expenses and revitalization of the Institution's physical infrastructure is \$821.1 million. It includes \$684.3 million for Salaries and Expenses (S&E) and \$136.8 million for the base amount of the Facilities Capital Account. In addition, the request includes \$205 million for the National Museum of African American History and Culture (NMAAHC). A detailed summary is provided in the table at the end of this section.

SALARIES AND EXPENSES

NON-DISCRETIONARY COST INCREASES

- **Salaries and Related Costs (+\$14,378,000)** — This request funds a 2.3 percent pay raise for FY 2012 and the annualization of the FY 2011 pay increase. It also includes an increase of \$91,000 required for Workers' Compensation.
- **Non-pay Mandatory Items (+\$1,286,000)** — The Institution requests additional funding, largely for inflation-related increases in utilities, postage, rent, software licenses, and other mandatory operating costs. Details are provided in the S&E section.

PROGRAM CHANGES

This budget request for FY 2012 places the programmatic increases into the broad categories of the Smithsonian's Strategic Plan, thereby linking the funds directly to the Institution's overall mission.

BROADENING ACCESS

- **Digitization and Web and New Media (+\$2,232,000)** — The Smithsonian continues work on its Strategic Plan to become the trusted source of information on the World Wide Web by using new technologies to share its vast collections and extensive research, along with the expertise of its scholars, scientists, researchers, museum specialists, and curators. This request supports the Smithsonian's Digitization Strategic Plan and Smithsonian's Web and New Media Strategic Plan to stimulate learning and innovation. The plan depends on having talented Web staff who can guide, deliver, and update the Smithsonian's digital experience as shared service providers for a global audience, while balancing creative autonomy and central control of this shared vision.

REVITALIZING EDUCATION

- **Education (+\$2,000,000)** — This request supports the Smithsonian Strategic Plan's focus on education. The Smithsonian is in a unique position to play a pivotal role in the collective effort to strengthen education. The Institution will do so by supporting the growth in STEM education (science, technology, engineering, and mathematics); reinvigorating learning in the area of civic participation and the American experience; and sharing and demonstrating the benefits of global partnerships and citizenship. The Institution's particular strength is in using the national collections and the Smithsonian's scholarly and scientific expertise to stimulate and inspire learning — a strength that can now be amplified through Web-based delivery systems and interactive technologies.

STRENGTHENING COLLECTIONS

- **Collections Care (+\$7,000,000)** — This request provides resources to improve collections care through manual and electronic registration, preservation, electronic and physical storage, and increased access to the collections nationally and internationally. This increase provides resources to implement an Institution-wide collections assessment program, to enhance accessibility, and to improve storage of collections currently at risk.

MISSION ENABLING

- **Facilities Requirements (+\$519,000)** — This increase provides the necessary facilities support required by the National Postal Museum (NPM). The request provides for salaries and benefits for additional security guards, custodial staff, and a utility systems repairer-operator to provide appropriate operational and maintenance support for the new street-level entrance and new public space at the NPM.
- **Revised Security Plan (-\$1,209,000)** — A new strategic security plan that was implemented in FY 2010 enabled the Institution to move to a security force with greater presence in museums, increased supervisory positions, and more clearly defined advancement potential. The full implementation

of this new security plan enables the Institution to return to prior-year funding levels, resulting in a return of -\$1,209,000.

- **Information Technology (IT) Infrastructure Consolidation (-\$2,736,000)**
The Institution is developing a plan to consolidate IT support services that are currently performed in the museums. The main objective of consolidation is to realize cost savings by reducing the number of IT staff across the Institution. With consolidation, the individual museums will lose approximately 50 percent of total Institution-wide personnel dedicated to museum IT desktop support which is well below industry standards.

FACILITIES CAPITAL PROGRAM

The request for the Facilities Capital Program (**+\$136,750,000**) is critical to arrest deterioration of some of our oldest buildings and to maintain the current condition of other facilities through systematic renewal and repair. The Smithsonian needs a minimum of \$150 million annually in federal funds to address the deteriorating condition of its buildings. However, in FY 2012, the Institution, in recognition of national budget constraints, is requesting \$136.8 million for the baseline revitalization requirements. The Institution is also requesting **\$205 million** for the federal share of the design and construction of the National Museum of African American History and Culture (NMAAHC). The Smithsonian is committed to raising 50 percent of the total cost for the new museum.

For FY 2012, this request continues major revitalization work at the Arts and Industries Building (\$20 million), the National Zoological Park (\$17.5 million), and the National Museum of Natural History (\$12.1 million). It also includes funds to renovate the Smithsonian Environmental Research Center research laboratory and access road (\$17.6 million); convert the uninhabitable school house at the Smithsonian Tropical Research Institute into an urgently needed research and laboratory facility, and other infrastructure upgrades in Panama (\$4.0 million); revitalize the National Museum of American History (\$11.5 million); renovate the mansion at Cooper-Hewitt, National Design Museum (\$7.0 million); provide an increment of the Smithsonian's share of the cost to construct the Giant Magellan Telescope (\$4.0 million); complete the electrical system at National Air and Space (\$0.8 million); and provide for critical revitalization projects under \$5 million throughout the Institution (\$22.0 million). This request also accounts for planning and design of future projects estimated at \$20.3 million. The Institution is also requesting funds for construction of NMAAHC, estimated at \$205.0 million. Details are provided in the Facilities Capital section of this request.

**SMITHSONIAN INSTITUTION
FY 2012 BUDGET REQUEST SUMMARY
BY APPROPRIATION ACCOUNT**

SALARIES AND EXPENSES	FTEs	Amount
FY 2011 Request	4,389	\$660,850,000
FY 2012 Changes		
<u>NON-DISCRETIONARY COST INCREASES</u>		
Salaries and Related Costs		14,378,000
Utilities, Postage, Rent, Communications, and Other		1,286,000
<u>PROGRAM CHANGES</u>		
Broadening Access		
Digitization/Web and New Media	4	2,232,000
Revitalizing Education		
Education	5	2,000,000
Strengthening Collections		
Collections Care Initiative		7,000,000
Mission Enabling		
Facilities Requirements	9	519,000
Revised Security Plan		-1,209,000
IT Infrastructure Consolidation		-2,736,000
FY 2012 Salaries and Expenses Request	4,407	\$684,320,000

FACILITIES CAPITAL	FTEs	Amount
FTEs in Base	48	
<i>Revitalization:</i>		
Arts and Industries Building		20,000,000
Cooper-Hewitt, National Design Museum		6,975,000
National Air and Space Museum		750,000
National Museum of American History		11,500,000
National Museum of Natural History		12,100,000
National Zoological Park		17,500,000
Smithsonian Environmental Research Center		17,650,000
Smithsonian Tropical Research Institute		4,000,000
Smithsonian Astrophysical Observatory		4,000,000
Other Revitalization Projects		22,005,000
<i>Planning and Design</i>		
Facilities Planning and Design		<u>20,270,000</u>
FY 2012 Facilities Capital Request (Less NMAAHC)	48	\$136,750,000
<i>FY 2012 Facilities Capital Construction</i>		
National Museum of African American History and Culture (NMAAHC)		\$205,000,000
FY 2012 REQUEST, ALL ACCOUNTS	4,455	\$1,026,070,000

**SMITHSONIAN INSTITUTION
SALARIES AND EXPENSES (S&E)
Summary of FY 2012 Changes**

	FTEs	\$s
FY 2011 S&E Appropriation	4,389	660,850,000
FY 2012 Changes		
Non-Discretionary Costs		
Legislated Pay Raises and Workers' Compensation		14,378,000
Utilities, Postage, Rent, Communications, and Other		<u>1,286,000</u>
Total Non-Discretionary Costs		\$15,664,000
Program Changes		
Broadening Access		
Digitization/Web and New Media	4	2,232,000
Revitalizing Education		
Education	5	2,000,000
Strengthening Collections		
Collections Care Initiative		7,000,000
Mission Enabling		
Facilities Operations, Security, and Support for the Postal Museum	9	519,000
Implement Revised Security Plan		-1,209,000
IT Infrastructure Consolidation		<u>-2,736,000</u>
Total Program Changes	18	\$7,806,000
FY 2012 Budget Request	4,407	\$684,320,000

SMITHSONIAN INSTITUTION

Salaries and Expenses

Unit Detail of the 2010 Appropriations and the 2011 and 2012 Estimates
(\$ in Thousands)

FTE = Full-Time Equivalent

	FY 2010		FY 2011		FY 2012		ANALYSIS OF CHANGE		
	Appropriation		Request to Congress		Request to OMB		Mandatory Costs \$000	Program	
	FTEs	\$000	FTEs	\$000	FTEs	\$000		FTEs	\$000
MUSEUMS AND RESEARCH CENTERS									
Unlocking the Mysteries of the Universe									
National Air and Space Museum	174	18,259	174	18,603	174	19,223	620	0	0
Smithsonian Astrophysical Observatory	113	24,323	113	24,759	113	25,318	559	0	0
Major Scientific Instrumentation	0	3,822	0	3,822	0	3,822	0	0	0
Universe Consortium	0	0	1	500	1	505	5	0	0
Subtotal, Unlocking the Mysteries of the Universe	287	46,404	288	47,684	288	48,868	1,184	0	0
Understanding and Sustaining a Biodiverse Planet									
National Museum of Natural History	376	47,622	387	50,433	387	51,961	1,528	0	0
National Zoological Park	220	23,190	222	24,197	222	24,920	723	0	0
Smithsonian Environmental Research Center	34	3,756	34	3,848	34	3,961	113	0	0
Smithsonian Tropical Research Institute	253	14,546	253	14,885	253	15,243	358	0	0
Biodiversity Consortium	0	0	22	7,000	22	7,062	62	0	0
Subtotal, Understanding and Sustaining a Biodiverse Planet	883	89,114	918	100,363	918	103,147	2,784	0	0
Valuing World Cultures									
Arthur M. Sackler Gallery/Freer Gallery of Art	48	6,113	48	6,268	48	6,467	199	0	0
Center for Folklife and Cultural Heritage	18	2,282	18	2,340	18	2,400	60	0	0
Cooper-Hewitt, National Design Museum	34	4,103	34	4,162	34	4,271	109	0	0
Hirshhorn Museum and Sculpture Garden	47	4,412	47	4,445	47	4,578	133	0	0
National Museum of African Art	32	4,504	32	4,532	32	4,639	107	0	0
World Culture Consortium	0	0	3	500	3	511	11	0	0
Subtotal, Valuing World Cultures	179	21,414	182	22,247	182	22,866	619	0	0
Understanding the American Experience									
Anacostia Community Museum	21	2,048	21	2,098	21	2,151	53	0	0
Archives of American Art	19	1,858	19	1,928	19	1,999	71	0	0
National Museum of African American History & Culture	46	12,894	46	13,568	46	14,055	487	0	0
National Museum of American History, Behring Center	185	22,349	185	22,778	185	23,727	949	0	0
National Museum of the American Indian	273	32,530	273	33,300	273	34,139	839	0	0
National Portrait Gallery	59	5,967	59	6,087	59	6,295	208	0	0
Smithsonian American Art Museum	94	9,245	94	9,522	94	9,865	343	0	0
American Experience Consortium	0	0	6	1,000	6	1,022	22	0	0
Subtotal, Understanding the American Experience	697	86,891	703	90,281	703	93,253	2,972	0	0
Total Museums and Research Centers	2,046	243,823	2,091	260,575	2,091	268,134	7,559	0	0

SMITHSONIAN INSTITUTION
Salaries and Expenses
Unit Detail of the 2010 Appropriations and the 2011 and 2012 Estimates
(\$ in Thousands)

FTE = Full-Time Equivalent

FTE = Full-Time Equivalent	FY 2010		FY 2011		FY 2012		ANALYSIS OF CHANGE		
	Appropriations		Request to Congress		Request to OM8		Mandatory Costs \$000	Program FTEs	Program \$000
	FTEs	\$000	FTEs	\$000	FTEs	\$000			
MISSION ENABLING									
Program Support and Outreach									
Outreach	48	8,134	48	8,244	48	8,437	193	0	0
Communications	24	2,457	25	2,708	27	2,981	98	2	175
Institution-wide Programs	0	10,839	0	12,139	0	19,139	0	0	7,000
Office of Exhibits Central	30	2,982	30	3,082	30	3,187	105	0	0
Museum Support Center	25	1,858	25	1,912	25	1,968	56	0	0
Museum Conservation Institute	24	3,119	24	3,199	24	3,283	84	0	0
Smithsonian Institution Archives	20	2,054	20	2,142	20	2,235	93	0	0
Smithsonian Institution Libraries	97	10,008	97	10,168	97	10,446	278	0	0
Subtotal, Program Support and Outreach	268	41,451	269	43,594	271	51,676	907	2	7,175
Office of the Chief Information Officer	90	43,536	96	46,806	98	50,758	1,895	2	2,057
Office of Education	14	1,535	14	1,529	19	3,575	46	5	2,000
Administration	193	32,874	197	34,130	197	35,028	898	0	0
Office of the Inspector General	22	2,700	22	2,657	22	2,733	76	0	0
Facilities Services									
Facilities Maintenance	357	72,935	357	72,729	357	73,968	1,239	0	0
Facilities Operations, Security and Support	1,343	197,307	1,343	198,830	1,352	201,184	3,044	9	(690)
Subtotal, Facilities Services	1,700	270,242	1,700	271,559	1,709	275,152	4,283	9	(690)
Information Technology Infrastructure Consolidation									
	0	0	0	0	0	(2,736)	0	0	(2,736)
Total Mission Enabling	2,287	392,338	2,298	400,275	2,316	416,186	8,105	18	7,806
GRAND TOTAL, SMITHSONIAN INSTITUTION	4,333	636,161	4,389	660,850	4,407	684,320	15,664	18	7,806

SALARIES AND EXPENSES

FY 2010 Appropriation	\$636,161,000
FY 2011 Estimate	\$660,850,000
FY 2012 Estimate	\$684,320,000

For FY 2012, the Institution requests \$684.3 million in the Salaries and Expenses (S&E) account. Within the total increase requested, approximately 67 percent is attributable to non-discretionary costs for sustaining base operations (e.g., pay, utilities, rent, etc.), and the remainder is for priority requirements throughout the Institution.

NON-DISCRETIONARY COSTS

SALARY AND RELATED COSTS (+\$14,378,000) — The Institution requests an increase of \$14,287,000 for higher salary and benefits costs in FY 2012, in direct support of the Institution's Strategic Plan for existing staff, as described below. The request funds the proposed 2.3 percent pay raise in January 2012 and the annualization of the anticipated 1.4 percent pay raise in January 2011. The request also reflects an increase of \$91,000 in Workers' Compensation costs. The following is a line-item display of the funds requested for FY 2012:

<i>Salary and Related Costs:</i>	<u><i>Requested</i></u>
▪ 2012 pay raise (3/4 year at 2.3%)	\$12,018,000
▪ Annualization of 2011 pay raise (1/4 year at 1.4%)	2,269,000
▪ Workers' Compensation	<u>91,000</u>
Total	\$14,378,000

- **Proposed 2012 Pay Raise (+\$12,018,000)** — This funds the proposed 2.3 percent January 2012 pay raise for three-quarters of a year.
- **Annualization of the 2011 Pay Raise (+\$2,269,000)** — This funds the annualization of the anticipated 1.4 percent average January 2011 pay raise for the first quarter of FY 2012.
- **Workers' Compensation (+\$91,000)** — This supports the provisions of Section 8147(b) of Title 5, *United States Code*, as amended by Public Law 94-273. The Workers' Compensation bill for FY 2012 is **\$3,656,000**, based on actual costs incurred from July 1, 2009 through June 30, 2010, as provided by the U.S. Department of Labor. The FY 2011 amount is \$3,565,000.

FY 2012 Increased Pay Costs
(Dollars in Thousands)

Line Item	FY 2011 Annualization	FY 2012 Pay Raise	Total
National Air and Space Museum	99	521	620
Smithsonian Astrophysical Observatory	89	470	559
Universe – Consortium	0	5	5
National Museum of Natural History	244	1,284	1,528
National Zoological Park	115	608	723
Smithsonian Environmental Research Center	18	95	113
Smithsonian Tropical Research Institute	57	301	358
Biodiversity – Consortium	0	62	62
Arthur M. Sackler Gallery/Freer Gallery of Art	32	167	199
Center for Folklife and Cultural Heritage	10	50	60
Cooper-Hewitt, National Design Museum	17	92	109
Hirshhorn Museum and Sculpture Garden	21	112	133
National Museum of African Art	17	90	107
World Culture – Consortium	0	11	11
Anacostia Community Museum	9	44	53
Archives of American Art	11	60	71
National Museum of African American History and Culture	58	316	374
National Museum of American History, Behring Center	115	607	722
National Postal Museum	5	22	27
National Museum of the American Indian	134	705	839
National Portrait Gallery	33	175	208
Smithsonian American Art Museum	55	288	343
American Experience – Consortium	0	22	22
Outreach	31	162	193
Communications	16	82	98
Office of Exhibits Central	17	88	105
Museum Support Center	9	47	56
Museum Conservation Institute	13	71	84
Smithsonian Institution Archives	15	78	93
Smithsonian Institution Libraries	44	234	278
Office of the Chief Information Officer	82	432	514
Office of Education	7	39	46
Administration	130	641	771
Inspector General	12	64	76
Facilities Maintenance	198	1,041	1,239
Facilities Operations, Security, and Support	556	2,932	3,488
Total Increased Pay Costs	\$2,269	\$12,018	\$14,287

UTILITIES, POSTAGE, RENT, COMMUNICATIONS, AND OTHER NON-DISCRETIONARY COSTS (+\$1,286,000) — For FY 2012, the Institution requests a net decrease of -\$131,000 for utilities, postage, and rent. The decrease reflects consumption and rate changes in the utilities accounts, and inflationary increases as well as program needs in the rent accounts. In addition, an increase of \$1,417,000 is requested to provide Communications and other resources for fixed software licensing and maintenance; maintenance of the Institution's firewall and Internet bandwidth; and audit requirements. The following table displays estimates from FY 2010 through FY 2012. Detailed explanations of each line item follow.

**Federal Utilities, Postage, Rent, Communications, and
Other Non-Discretionary Costs
FY 2010–FY 2012
(Dollars in Thousands)**

	FY 2010 Approp.	FY 2011 Estimate	FY 2012 Estimate	Change
Utilities:				
Electricity	23,445	23,021	21,735	-1,286
Chilled Water	7,994	8,040	7,537	-503
Steam	8,854	8,870	9,036	166
Natural Gas	4,478	4,742	4,471	-271
DC Gov't Water/Sewer	4,435	2,802	3,451	649
Other Water and Fuel Oil	<u>931</u>	<u>1,031</u>	<u>1,094</u>	<u>63</u>
Subtotal, Utilities	50,137	48,506	47,324	-1,182
Postage	1,790	1,836	1,661	-175
Motor Fuel	370	370	370	0
Rent:				
Central	28,404	28,162	29,075	913
Unit	<u>4,639</u>	<u>5,066</u>	<u>5,379</u>	<u>313</u>
Subtotal, Rent	33,043	33,228	34,454	1,226
Communications	12,679	14,171	15,552	1,381
Other	1,461	1,516	1,552	36
Total	\$99,480	\$99,627	\$100,913	\$1,286

UTILITIES (-\$1,182,000) — The utilities request supports electricity, chilled water, steam, natural gas, Washington, DC Government Water and Sewer, and other water and fuel-oil services. The request includes the following:

- **Electricity (-\$1,286,000)** — Electricity is used to operate the Smithsonian's large infrastructure. The major use of electricity is for air-conditioning that provides essential climate control to protect the priceless national collections as well as visitors and staff. The electricity estimate is reduced in FY 2012 to reflect the lower utility rates, with small increases to support facilities and program changes.

The estimate includes lower actual rates in FY 2010 for the Washington Metropolitan Area (-\$2,021,000); anticipated rate increases in FY 2012 for all accounts outside of the Metropolitan Area (+\$234,000); and an increase for the purchase of renewable energy certificates to meet federal and Smithsonian energy goals of 7.5 percent of electricity use (+\$27,000). The request also includes increases for start-up funds to support the Smithsonian's annual share of electricity costs for the Smithsonian-George Mason University Global Conservation Studies Program (+\$115,000); added electricity demands resulting from the National Museum of American History's garage in-fill project (+\$87,000) and increased laboratory and support facilities at the Smithsonian Environmental Research Center (+\$229,000); and anticipated decreased reimbursements due to lower electricity rates (+\$43,000).

- **Chilled Water (-\$503,000)** — Chilled water costs represent both the annual cost of the fixed, 15-year debt service for the joint project between the General Services Administration (GSA) and the Smithsonian to supply chilled water from GSA's central plant to the Smithsonian's south Mall facilities, and the variable cost for actual chilled water usage. The request includes an anticipated 1 percent rate increase in FY 2012 (+\$33,000), offset by a decrease for lower-than-budgeted rate increases in FY 2010 (-\$533,000) and increased reimbursements due to higher rates (-\$3,000).
- **Steam (+\$166,000)** — The Smithsonian uses steam for heating and humidification, and to produce hot water for facilities on the Mall and in New York City. The estimate includes an anticipated 12 percent rate increase to the New York account (+\$66,000); an increase for added steam demand due to the National Museum of American History's garage in-fill project (+\$65,000); and an adjustment for a cost-savings shortfall in the NORESO Energy Savings Performance Contract (ESPC) due to a lower steam rate in FY 2010 than the ESPC's baseline rate (+\$35,000). An April 2010 letter from GSA states that rates for facilities on the Mall will remain the same as FY 2011 rates.
- **Natural Gas (-\$271,000)** — The Smithsonian uses natural gas for heating and generating steam. The net estimate includes an adjustment for the effect of lower-than-budgeted rate increases in FY 2010 among all accounts (-\$444,000); anticipated rate increases in FY 2012 that range from 3 percent to 8 percent among all accounts (+\$177,000); additional funds for added steam demand due to the National Museum of American History's garage in-fill project (+\$2,000); and anticipated increased reimbursements due to higher rates (-\$6,000).
- **DC Water and Sewer (+\$649,000)** — Funds provide for both water and sewer services provided by the District of Columbia Water and Sewer Authority (DCWSA). This increase represents rate and billing adjustments transmitted by DCWSA to the Smithsonian (+\$657,000), offset by anticipated increased reimbursements (-\$8,000).
- **Other Water and Fuel Oil (+\$63,000)** — Funds provide water for facilities outside of Washington, DC, and fuel oil used in dual-fuel boilers and emergency generators as a backup to natural gas. The net request provides for an anticipated 4 percent rate increase for all water accounts outside of Washington, DC (+\$34,000), and an increase for start-up funds to support the Smithsonian's annual share of water costs

for the Smithsonian-George Mason University Global Conservation Studies Program (+\$10,000). Also included are funds to support an anticipated rate increase of 6 percent among all fuel-oil accounts (+\$19,000).

POSTAGE (-\$175,000) — Funds provide for all official domestic and international mail services. The postage estimate is reduced in FY 2012 to more closely align with estimated costs. The proposed decrease is primarily attributed to the U.S. Postal Service's delayed 2.9 percent rate increase, and greater cost savings from reduced mail volume of postal mail due to the increased use of e-mail and the World Wide Web (-\$175,000).

RENTAL SPACE (+\$1,226,000) — The request includes a net increase for centrally funded lease requirements (+\$913,000) and unit-funded, programmatic lease requirements (+\$313,000), as follows:

- **Central Rent (+\$913,000)** — The increase provides additional base rent funds for leased office and storage space, as follows:

Escalation (+\$879,000) — Provides for annual rent increases in accordance with the actual terms of current lease contracts. Among the contracts, the annual escalation rate for base rent averages 3 percent, and operating and real-estate taxes are estimated at 8 percent above FY 2011 estimates.

Other Additional Base Rent (+\$34,000) — Provides additional base rent required for increased storage-space needs for the Smithsonian's Center for Folklife and Cultural Heritage (CFCH) and Center for Education and Museum Studies (CEMS). CFCH and CEMS currently occupy 3,134 square feet of storage space located at 750 9th Street, NW, Washington, DC (Victor Building) in addition to 210 square feet of storage space in Maryland. CFCH also uses 2,000 square feet of space at National Air and Space Museum's Udvar-Hazy Center. However, the space at Udvar-Hazy Center will not be available when Phase Two of the Center is complete in FY 2011. Also, the Victor Building lease for the storage space expires on April 30, 2012 and the Smithsonian does not plan to renew the lease because the space is difficult to access. In mid-FY 2011, the Smithsonian plans to lease 8,066 square feet of storage space for CFCH and CEMS at a location to be determined.

The requested \$34,000 in additional rent funds, along with \$86,000 for base rent, will provide the estimated \$120,000 in annual lease costs for FY 2012. All move and relocation expenses will be funded from the existing federal base resources.

Unit Rent (+\$313,000) — Justified here, but included in the following museums' line items are unit-funded rent increases needed to support Smithsonian programs. The increases are as follows:

National Museum of African American History and Culture (NMAAHC) (+\$113,000)
Supports increased annual rent costs for leased office and collections-storage space at the Capital Gallery and Pennsy Drive facilities. NMAAHC's base rent escalation is calculated according to lease terms and averages 3 percent between the two leases.

Operating expenses and real-estate taxes are estimated at 8 percent over FY 2011 estimates (+\$113,000).

National Postal Museum (NPM) (+\$200,000) — This increase provides the remaining balance required to pay annual lease costs (+\$165,000) and utility expenses (+\$35,000) for leased space within the historic Postal Square Building, adjacent to NPM's existing leased space. A signed lease agreement between the Smithsonian and the U.S. Postal Service provides NPM with an additional 9,200 square feet of space to be used primarily for the exhibition of NPM's philatelic collection. NPM received a sizable donation to support the expansion of the Museum with trust funds. The lease allows for a major transformation of the Museum, giving it a substantial presence on the ground floor of a historic building, thereby providing expanded exhibition space and increasing NPM's visibility and attendance. The increase requested here and in the FY 2011 Budget provides \$300,000 for estimated annual lease and utility costs in FY 2012.

COMMUNICATIONS (+\$1,381,000) — The communications base supports the operations of the Institution's voice and data telecommunications infrastructure.

Item	(\$000s)
Increased bandwidth/leased line increase	240
Replace firewall/maintenance	330
License/Maintenance increases	441
SharePoint maintenance	245
STARS Hiring System	125
Total	1,381

- **Increased bandwidth/leased line increase (+\$240,000)** — The requested funds include \$230,000 to increase bandwidth capacity from 200Mb to 600Mb, which is the minimum needed to meet the increased Internet audience and the demand for digital content, including larger files such as digital video, which will grow significantly during the next two years. If we only maintained the current capacity, external visitors would experience very slow connectivity to Smithsonian websites, and SI staff would also experience delays when trying to access Smithsonian or other websites. This is a crucial time for the Institution as Internet usage continues to grow and the Smithsonian is strategically committed to increase the sharing of Smithsonian knowledge and digital assets globally via the Internet in support of the Institution's new Strategic Plan goal to broaden access. The requested funds also cover increased leased line costs for current capacity (\$10,000).
- **Replace aging firewall hardware/maintenance (+\$330,000)** — Firewalls are needed to protect Smithsonian websites, desktops, and IT application systems — and the information stored on these systems — from security threats and inappropriate access. This increase will solve a major internal control issue. The Smithsonian continues to see an increased reliance on information technology that requires increasing network bandwidth. The current configuration of firewalls requires periodic upgrading with consistently larger capacity to coincide with the Smithsonian's increased Internet traffic.

If one of these aging firewalls fails, we could have a Web outage that would require bringing down internally hosted Smithsonian websites or applications.

- **License/Maintenance (+\$441,000)** — The request supports annual increases to software license fees and hardware maintenance costs, as follows:

Item	\$000s
Proxy Server Maintenance	55
CISCO Maintenance — Telepresence	85
CISCO Maintenance — Whipple Upgrades	15
EMC Maintenance	75
DAMS Maintenance	25
Security Software Maintenance	41
Desktop computer power management software – Maintenance	20
Facility Management System Maintenance and License	10
Scientific Software Application Licenses	105
SITES TRAX Licenses and Maintenance	9
Horticulture BG Maintenance	1
Total	441

- **SharePoint Maintenance (+\$245,000)** — In FY 2009, the Institution successfully obtained a nearly \$4 million donation of Microsoft SharePoint services and licenses. The Institution is increasingly using SharePoint and it is critical to our internal communication and overall administrative efficiency. Beginning in FY 2012, the Institution must pay maintenance and licensing costs for this donation. This maintenance and assurance includes significant discounts for any new upgrades, which will save the Institution several million dollars in upgrade fees. If we do not pay this each year, not only do we lose access to updates, patches, and technical support for that year, but we also forfeit future rights to get a new version of SharePoint at the significantly reduced price. Paying this fee reduces the Smithsonian's risk of incurring additional expenses by several million dollars.
- **STARS Hiring System (+\$125,000)** — The STARS Hiring Management System needs replacement. The Institution is at the end of the five-year contract with Monster Government Solutions. A market analysis was conducted by the Office of Human Resources, with support from the Office of the Chief Information Officer and the other units operating with existing automated hiring systems used by the Federal Government. Not funding this increased cost will prevent the Smithsonian from online recruiting to fill vacancies.

OTHER — ADMINISTRATION (+\$36,000) — Covers contractually required inflation costs for the annual audit of the Smithsonian's financial statements and personal property inventory (+\$18,000) and increased processing fees for the Smithsonian's payroll services at the National Finance Center (+\$18,000).

SUMMARY OF PROGRAM CHANGES

	\$000s
Broadening Access	
• Digitization/Web Support	2,232
Revitalizing Education	
• Education	2,000
Strengthening Collections	
• Collections Care	7,000
Mission Enabling	
• Facilities Support	519
• Revised Security Plan	-1,209
• IT Infrastructure Consolidation	<u>-2,736</u>
Total S&E	7,806

BROADENING ACCESS

Digitization/Web Support (+\$2,232,000, +4 FTEs)

One of the key components of the Institution's Strategic Plan is to broaden access to the Smithsonian's collections, exhibitions, and outreach programs. The Institution will accomplish this goal by using new media and social networking tools to deliver information in customized ways that bring the Smithsonian's resources to audiences who cannot visit the museums and research centers in person. Digitizing the collections and making them accessible online are major strategic plan priorities. The increases highlighted below will assist in achieving this Institutional priority.

Items	\$(000)
Increased Bandwidth Capacity	230
Digitization Program Office	500
DAMS Storage and Backup	400
Trusted Digital Repository	
TDR, Storage and Backup	400
TDR, Curators (1 FTE)	132
TDR Contractor Services	200
SharePoint Project Manager (1 FTE)	155
Foresee Results Subscription	40
Web and New Media Support (2 FTEs)	175
Total	2,232

Increased Bandwidth Capacity (+\$230,000)

Funds are requested to increase the bandwidth capacity from 600 Mb to 1 Gb, which will be needed to meet the increased Internet audience and the demand for digital content, including larger files such as digital video, which will grow significantly during the next two years. If we stay at our current capacity, external visitors will experience very slow connectivity to Smithsonian websites and likely get frustrated and turn away from Smithsonian websites. Smithsonian staff will also experience delays when trying to access these websites. Failure to fund this increase would be contrary to the Smithsonian's Strategic Plan goal and to mandates from Congress to provide the Smithsonian experience to the millions who cannot visit the Mall.

Digitization Program Office (+\$500,000)

Funds are requested to continue to execute the Smithsonian's Digitization Strategic Plan. Nine strategic actions were launched this year by teams comprised of 8–12 people each, with more to follow in FY 2011. These actions will require oversight and seed funding to encourage units to digitize their collections in a systematic and consistent manner necessary for a successful digitization program at the Smithsonian.

DAMS (+\$400,000)

In FY 2009, the Institution established a Digital Asset Management System (DAMS) support branch to expand the Institution's pilot DAMS into a full enterprise production system with mature processes and production-quality data. The focus of the DAMs is on managing the master digital asset (e.g., images, video, and audio) and providing access to digital derivatives. As such, the DAMS is a key component of the Smithsonian's digital infrastructure and a primary component of the Enterprise Digital Asset Management Network (EDAN) architecture. Much progress has been made in the past two years, including defining a metadata model for images, ingesting unit digital assets, and providing dedicated operational support. The next major advancement is under way with the development of metadata models for audio and video digital assets. These new formats are much larger than digital images and will rapidly consume limited storage and backup capacity at an accelerated rate. In FY 2012, additional funds will be required for increased storage and backup capacity.

Trusted Digital Repositories (+\$732,000, +1 FTE)

OCIO plans to establish Trusted Digital Repositories (TDRs) at the Smithsonian by assigning staff and systems to build an initial capacity in FY 2012. Achieving long-term preservation and access, as defined in the Smithsonian's Digitization Strategic Plan, will require digital data curators and

data scientists for the management and care of digital assets. This initiative will address how to migrate files across evolving storage media and establish and maintain file formats to ensure the integrity of data — including the retention and disposition schedules of digital assets. The Smithsonian will need to develop data management plans for the proper stewardship of all digital data and surrogates — recently reinforced by a new requirement for data management plans for all National Science Foundation (NSF)-funded grants beginning October 1, 2010. In order to comply with NSF's edict, the Smithsonian needs a trusted digital repository. To get there, additional storage and backup capacity is required in FY 2012 to begin centralizing the vast number of scientific digital datasets, and funds are needed to hire a data curator to manage this digital collection and provide the expertise units require to develop data management plans.

SharePoint (+\$155,000, +1 FTE)

In FY 2009, the Institution successfully obtained a nearly \$4 million donation of Microsoft SharePoint services and licenses. This new technology is being used in FY 2010 to re-architect the Smithsonian's intranet to increase communication to and among staff, provide virtual collaboration communities internally, and democratize the Web publishing process so that content can be directly updated by non-Web staff to keep the intranet an authoritative, current, and trusted source of content. Funding is requested to provide a full-time program manager dedicated to this growing collaborative system.

Foresee Results Subscription (+\$40,000)

This analytical research tool provides the Institution with the capability to gather feedback on Smithsonian websites to measure the stakeholders' satisfaction with the Institution's Web presence during this critical time of growth for the Web.

Web Support (+\$175,000, +2 FTEs)

To broaden accessibility to the Smithsonian collections, the Office of Public Affairs requires 2 FTEs in FY 2012 as follows:

- 1 FTE (\$100,000) to serve as a communications professional to specialize in education, using Web and new media, to promote SI collections, and experts to educators and students throughout the United States and around the world.
- 1 FTE (\$75,000) to monitor the Smithsonian's Web and new media presence, to ensure that the Institution's policies for websites, social media, mobile applications and other digital communications media are followed, and to support the Office of Public Affairs' Web content manager and the Institution's Web and New Media Steering Committee.

REVITALIZING EDUCATION

Education (+\$2,000,000, +5 FTEs)

The race for excellence in education in this country is well under way and the Smithsonian will play a pivotal role in the collective effort to strengthen our nation. It will do so by creating stimulating learning experiences in science, technology, engineering, and mathematics (STEM); introducing learners to the problem-solving skills of design thinking; reinvigorating learning in the area of civic participation and the American experience; sharing and demonstrating the benefits of global partnerships and citizenship; and by supporting the creativity and innovation on which our nation was founded.

Throughout the country, learners are finding that they must mediate and construct their own learning experiences. Four-day school weeks, virtual high schools, educational offerings on public television stations, and educational applications on mobile devices and interactive websites are all resources that engage students of all ages in self-directed learning. The common need of all of these learners is high-quality, accurate, and engaging content. Smithsonian scholarship covers most of the required state standards and Smithsonian staff participate in partnerships with educators and colleagues in a variety of venues. To date, the Smithsonian has produced multi-disciplinary online conferences that have attracted more than 20,000 learners; we are offering programs for young people and educators that enhance learning through the use of mobile and digital technologies; and we have developed educational applications and games that teach audiences of all ages about our research. We are poised to do much more. By working with our partners from libraries, universities, the business community and the cultural sector, our experienced educators, innovative interactive technology staff, and world-renowned researchers have made the Smithsonian an important venue in the movement to develop interactive learning experiences in the 21st century.

The Smithsonian's newly created central office for education will provide Institution-wide coordination for all units engaging in education programming and will be committed to advancing the goal of *Broadening Access* to the Smithsonian's resources and collections. In an effort to build capacity and implement cost-effective and efficient programming and practices throughout the Smithsonian, we would add key staff to the Department of Education (which is currently staffed by the Director and a Program Manager). Additional staff would include a Senior Executive Officer (\$180,000), a Manager of Media and Marketing (\$150,000) who would help us reach broader audiences, a Project Manager (\$100,000) who would work on collaborative initiatives, and an Administrative Officer (\$70,000).

A key strategy will be to take successful projects to scale and build into future projects applications that enable us to evaluate the impact of our work and collect data about our users. Accordingly, we will increase the number of multi-disciplinary online conferences that we offer (\$300,000 for research and development, production and evaluation); and engage Smithsonian audiences in participatory, active learning

through the development of a mission-based gaming platform (\$150,000 for the development of the platform, and \$100,000 for the Community Manager). We will also develop and pilot programs on the Mall to create strategies for reaching audiences in other communities (\$250,000 for research and implementation); and provide professional development for Smithsonian educators and their peers (\$250,000) who will be applying new skills and developing new high-quality products. In furtherance of our commitment to outcome-based evaluation, we will work with specialists who will train staff, offer technical assistance, and develop pilot evaluation programs in art, history and science units (\$250,000). We will also bring in specialists to help us reconsider our strategic position and our approach to audience development (\$200,000).

STRENGTHENING COLLECTIONS

Collections Care (+\$7,000,000)

The increase requested provides resources to implement an Institution-wide collections assessment program, address Smithsonian Inspector General (IG) collections-related audit recommendations, and improve the preservation, storage, and accessibility of collections currently at risk of loss or damage.

Items	\$000
Preservation	3,000
Storage Equipment	2,500
Inventory and Assessment	1,500
Total	7,000

In FY 2010, the Smithsonian conducted an Institution-wide collections assessment adapted from a survey tool used by the National Museum of Natural History (NMNH). The requested increase provides funds to strategically address specific collections care deficiencies identified by the collections assessment. Based on the assessment results, this request will target specific collections and improve substandard aspects of collections care to an acceptable level by (1) stabilizing, conserving, and re-housing collections for long-term preservation and accessibility (\$3,000,000); (2) purchasing compact storage units and replacing obsolete, substandard cabinetry that is detrimental and hazardous to collections, staff, and researchers (\$2,500,000); and (3) conducting collections inventorying, cataloguing, and preservation surveys to ensure baseline accountability and stewardship of collections as well as to establish unit action plans for the preservation and conservation of specific collections (\$1,500,000).

This request directly supports the SI Strategic Plan to continually improve the quality of collections preservation, storage space, management, information content, and physical and electronic access while leveraging resources to support Institution-

wide initiatives that strategically address Smithsonian collections care. Funding for this request enables the Smithsonian to:

- address IG audit recommendations at NMNH regarding deficiencies in collections inventory and security, including key inventories of the Anthropology collections that were moved to Pod 3 of the Museum Support Center, as well as the Mineral Sciences mineral reference collections, and the secure storage of high-value Bird collections and objects on incoming loan for exhibition
- minimize physical and security risks to collections by replacing substandard storage cabinetry and drawers at the Cooper-Hewitt National Design Museum, National Air and Space Museum, National Museum of American History, National Museum of Natural History, and the National Portrait Gallery
- improve accessibility and management of collections at risk, including cryo-materials and time-based media, anthropology, mineral science, paleobiology, medical history, film, sculpture, and textiles collections, as well as decorative and graphic arts, works on paper, and manuscripts
- support the Administration's priority that the proper stewardship of federal scientific collections is critical to maintaining America's excellence and leadership in science and technology as well as the recommendations of the IWGSC report *Scientific Collections: Mission-Critical Infrastructure for Federal Science Agencies* and the Organization for Economic Cooperation and Development Global Science Forum.

MISSION ENABLING

Facilities Requirement (+\$519,000, +9 FTEs)

This increase provides the necessary facilities support required by the National Postal Museum (NPM). A lease agreement between the Smithsonian and the U.S. Postal Service provides the NPM with an additional 9,200 square feet of space within the historic Postal Square Building, adjacent to NPM's existing leased space. The lease commencement date is June 1, 2011. Lease costs to cover a partial year were included in the FY 2011 President's Budget and the balance required to pay the annual costs for the leased space is included in the Non-Discretionary Costs section of this budget. This increase provides for the salaries and benefits of five additional security guards (\$285,000), three custodial staff (\$147,000), and one utility systems repairer-operator (\$87,000) to ensure appropriate operational and maintenance levels of support for the expanded space at NPM.

Revised Security Plan Implementation (-\$1,209,000)

A new strategic security plan that was implemented in FY 2010 enabled the Institution to move to a security force with greater presence in museums, increased supervisory positions, and more clearly defined advancement potential. The Institution received increases in FY 2010 and FY 2011 to implement the new security structure during a two-year period. The Institution now plans to return approximately 80 percent

of the increases received, while still maintaining a greater security presence. The Institution was able to achieve these results by creating a hybrid force of unarmed contract security officers at lower-risk security posts. Assuming full funding of the FY 2011 request, the implementation of this new security structure will enable the Institution to return to prior-year funding levels, resulting in a return of -\$1,209,000.

IT Infrastructure Consolidation (-\$2,736,000)

Currently, both the Smithsonian Office of the Chief Information Officer (OCIO) and individual SI units provide desktop support services to SI staff. The Institution is identifying the specific IT infrastructure support services that should be consolidated under the Office of the Chief Information Officer and the staff throughout the Institution who are currently providing those services. The Institution will then develop a plan to consolidate IT support services, along with the level and type of staffing the Smithsonian will require.

The main objective of consolidation is to realize cost savings by reducing the number of IT staff throughout the Institution. With consolidation, the individual units will lose approximately 50 percent of total Institution-wide personnel dedicated to unit IT desktop support which is well below industry standards. It is expected this consolidation will gain some efficiencies, as well as result in a degradation of service in light of the size of the staff reductions. After the consolidation, unit staff members will use the central IT help desk, which will provide support at a reduced but to-be-determined level. Where possible, OCIO will automate the delivery of services and use remote management techniques so as to minimize the adverse impact of IT staff reductions on IT service quality.

NO-YEAR FUNDING — The following table provides the FY 2011 and FY 2012 Salaries and Expenses request for No-Year funding.

No-Year Funding Request
(Dollars in Thousands)

Salaries and Expenses	FY 2011 Request	FY 2012 Request
No-Year Funds		
National Museum of African American History and Culture	13,568	14,055
National Museum of Natural History		
Exhibition Reinstallation	1,000	1,000
Repatriation Program	1,707	1,707
Major Scientific Instrumentation	3,822	3,822
Collections Acquisition	459	459
Total, No-Year	\$20,556	\$21,043

OBJECT CLASS — The following table provides an object class breakout of resources for the Salaries and Expenses account.

Object Class Request
(Dollars in Millions)

Salaries and Expenses	FY 2011 Request	FY 2012 Request
Salaries and Benefits	421	435
Travel and Transportation	5	5
Rent, Utilities, Communications, and Other	97	101
Other Services	95	100
Supplies and Materials	21	21
Equipment	22	22
Total	\$661	\$684

FEDERAL RESOURCE SUMMARY BY PERFORMANCE OBJECTIVE AND PROGRAM CATEGORY

The Smithsonian has developed its FY 2012 budget request by reviewing all resources, both base amounts and identified increases or decreases, in relation to the Institution's performance plan. In the sections that follow, detailed justifications are provided for all funding and FTEs by the Institution's strategic goals and by performance objectives under each goal.

The Institution's program performance goals and objectives were aligned with the program categories used in the federal budget and the Institution's financial accounting system. This enables the Institution to more clearly demonstrate the relationship between dollars budgeted and results achieved.

The following table summarizes the Institution's FY 2011 and FY 2012 **Salaries and Expenses** estimates and the proposed changes by strategic goal, performance objective, and program category.

Federal Resource Summary by Performance Objective and Program Category
Salaries and Expenses (\$ in Thousands)

Performance Objective/ Program Category	FY 2011		FY 2012		Change	
	FTEs	\$000	FTEs	\$000	FTEs	\$000
Excellent Research (Grand Challenges)						
Engage in research and discovery	494	78,837	494	80,511	0	1,674
Ensure the advancement of knowledge in the humanities	148	19,850	148	20,364	0	514
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	61	9,239	65	11,669	4	2,430
Public Programs (Grand Challenges)						
Provide reference services and information	136	15,316	136	15,758	0	442
Exhibitions (Grand Challenges)						
Offer compelling, first-class exhibitions	441	53,607	441	55,042	0	1,435
Revitalizing Education						
Engage and inspire diverse audiences	169	18,649	174	21,199	5	2,550
Strengthening Collections						
Improve the stewardship of the national collections	476	59,784	476	68,333	0	8,549
Mission Enabling						
Facilities						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	626	131,254	635	133,678	9	2,424
Implement an aggressive and professional maintenance program	397	70,392	397	71,683	0	1,291
Execute an aggressive, long-range revitalization program and limited construction of new facilities	1	2,059	1	2,062	0	3
Security and Safety						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	740	69,821	740	71,683	0	1,291
Provide a safe and healthy environment	50	7,863	50	8,026	0	163
Information Technology						
Modernize the Institution's information technology systems and infrastructure	153	56,532	153	55,675	0	-857
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	185	23,140	185	23,742	0	602
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	102	15,752	102	16,084	0	332
Modernize the Institution's financial management and accounting operations	118	16,492	118	16,912	0	420
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	32	3,821	32	3,925	0	104
Modernize and streamline the Institution's acquisitions management operations	50	6,436	50	6,599	0	163
Financial Strength						
Secure the financial resources needed to carry out the Institution's mission	10	2,006	10	2,039	0	33
TOTAL	4,389	660,850	4,407	684,320	18	23,470

FACILITIES CAPITAL

FY 2010 Appropriation	\$125,000,000
FY 2011 Estimate	\$136,750,000
FY 2012 Estimate	\$136,750,000
FY 2012 National Museum of African American History and Culture	\$205,000,000

STRATEGIC GOAL: ENHANCED MANAGEMENT EXCELLENCE

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2011		FY 2012		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Mission Enabling						
<i>Facilities</i>						
Execute an aggressive, long-range revitalization program and limited construction of new facilities	48	115,050	48	111,600	0	-3,450
<i>Security and Safety</i>						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	0	1,400	0	5,150	0	3,750
Provide a safe and healthy environment	0	20,300	0	20,000	0	-300
Total	48	136,750	48	136,750	0	0

National Museum of African American History and Culture	FY 2012 (\$000)	Change (\$000)
Construction	205,000	205,000

BACKGROUND AND CONTEXT

The Facilities Capital Program underpins the Smithsonian's mission and represents a vital investment in the long-term interest of the nation. It is intended to provide modern facilities that satisfy public programming needs and facilitate world-renowned research efforts.

The professional engineering study, *Smithsonian Institution Museums and Facilities: Critical Assessment and Improvement Objectives*, published in 2001, established a 10-year, \$1.5 billion requirement for capital revitalization of Smithsonian facilities. The National Academy of Public Administration (NAPA) study of that same year supported these findings, and the Government Accountability Office (GAO) reports of April 2005 and September 2007 confirmed that the Institution needs an investment of \$2.5 billion (in FY 2007 dollars) for revitalization, construction, and maintenance in the coming decade. This amount includes requirements for anti-terrorism modifications and maintenance that were not addressed in the NAPA study. Funding levels for the past few years have allowed the Smithsonian to make some progress against this requirement.

In the Facilities Capital Program, revitalization involves making major repairs or replacing declining and failed infrastructure to address the causes of advanced deterioration. Once completed, these projects will enable the Smithsonian to avoid the failures in building systems that can create hazardous conditions for visitors and staff, harm animals, damage collections, and cause the loss of precious scientific data. Fulfilling the Smithsonian's mission will also require construction of the National Museum of African American History and Culture (NMAAHC).

Funding for facilities routine maintenance and minor repairs is included in the Institution's Salaries and Expenses request. These resources are critical to realize the intended design life and full economic value of Smithsonian facilities and to protect the Institution's investment in revitalization. Underfunding maintenance devalues the Institution's capital investment by prematurely shifting increased costs to the Facilities Capital Program.

The Institution plans to use these combined resources to provide for safe, code-compliant, and functional facilities that support Smithsonian programs. Sustained future funding to meet these requirements is essential to sustain the viability of the Institution's physical plant.

FY 2012 REQUEST — EXPLANATION OF CHANGE

The Institution requests \$136,750,000 and 48 FTEs for the Facilities Capital Program in FY 2012. In addition, the Institution is requesting \$205 million for the National Museum of African American History and Culture (NMAAHC). To continue progress against the NAPA and GAO-recommended \$150 million annual goal, \$136.75 million is requested for revitalization and for the planning and design of future projects. Major renovation efforts will continue at the National Zoological Park (NZP), which will be guided by the master plan to correct the deteriorating conditions there. This request also recognizes the need to sustain progress in other priority areas, which include revitalizing the National Museum of Natural History (NMNH) and the National Museum of American History (NMAH). This request also provides funding to renovate the Mathias

Laboratory at the Smithsonian Environmental Research Center (SERC), continue work on the Smithsonian Tropical Research Institute's (STRI) Gamboa Laboratory, and complete the work on the Arts and Industries Building (AIB) shell. Other priorities include funding to renovate the Cooper-Hewitt, National Design Museum's (CHNDM) Carnegie Mansion and to address various safety and security deficiencies.

The chart that follows summarizes the Institution's full request for the highest priority FY 2012 projects and the related future program funding requirements through FY 2016.

SMITHSONIAN INSTITUTION									
Federal Facilities Capital Program Summary									
FY 2010 - FY 2016									
CATEGORY	Received FY 2010	Congress Request FY 2011	OMB Request FY 2012	Trust* Estimate	Future Program Estimates				Trust* Estimate FY2013-16
					FY 2013	FY 2014	FY 2015	FY 2016	
REVITALIZATION									
<i>Major Projects</i>									
Arts & Industries Building	11.6	0.0	20.0		24.0	66.5	64.4	8.0	TBD
Cooper-Hewitt Museum		8.9	7.0	3.2	1.4				5.3
Greenhouse Replacement	2.5								
Hirshhorn Museum							8.7	10.0	
Museum Support Center	15.0	5.0			7.0	7.0	7.0	5.0	
National Air and Space Museum			0.8			5.0	25.0	20.0	
National Museum of American History	7.0	18.0	11.5	3.5	40.3		5.0		
National Museum of Natural History	16.3	17.6	12.1		18.3	17.5	18.5	13.0	
National Zoological Park	16.0	11.4	17.5	0.5	16.9	24.7	10.9	32.0	1.5
Renwick Gallery								6.8	
SERC, Mathias Lab & Contees Wharf Road		16.0	17.6		7.7	4.0	1.3		
Smithsonian Castle								25.0	
STRI, Gamboa	3.0	7.0	4.0					21.5	
<i>Other Revitalization Projects</i>	15.1	22.3	22.0	2.0	39.6	47.2	39.8	36.7	2.0
<i>Facilities Planning and Design</i>	16.7	10.6	20.3		42.4	26.4	18.4	15.0	
<i>Anti-Terrorism Protection</i>	1.8				2.4	1.7	1.0	7.0	
SUBTOTAL	105.0	116.8	132.8	9.2	200.0	200.0	200.0	200.0	8.8
CONSTRUCTION									
National Museum of African American History & Culture	20.0	20.0	205.0	101.5					129.2
SAO, Giant Magellan Telescope			4.0	3.0	5.0	12.0	14.0	11.0	29.0
Construct Hilo Control Building Extension					0.1	1.5			
Construct SERC Library/Seminar Facility				2.0	0.7	5.0	0.6	4.5	2.0
SUBTOTAL	20.0	20.0	209.0	106.5	5.8	18.5	14.6	15.5	160.2
TOTAL REQUEST	125.0	136.8	341.8	115.7	205.8	218.5	214.6	215.5	169.0
LEGACY FUNDING									
Arts & Industries Building	30.0								

* Trust funding is mostly programmatic

SUMMARY TABLES

REVITALIZATION

Major Projects

Investment in major projects provides for the replacement of failing or failed major building systems and equipment, and for major renovation projects to preserve the buildings. It primarily includes the exterior envelope, HVAC, electrical, and other utility systems at the older buildings. Projects also entail modifications to ensure compliance with life-safety and Americans with Disabilities Act (ADA) codes, restoration of historic features, and modernization of the buildings to support current program requirements. Major projects are those that cost more than \$5 million.

<u>Facility</u>	<u>Project</u>	<u>\$(000)</u>
Arts and Industries Building	Renovate Shell	20,000
Cooper-Hewitt, National Design Museum	Carnegie Mansion Renovation	6,975
National Air and Space Museum	Replace Electrical System	750
National Museum of American History	West Wing Renovation	11,500
National Museum of Natural History	Revitalize Public and Non-Public Space	12,100
National Zoological Park	Upgrade Fire Suppression, Life-Safety and Infrastructure Systems	10,000
	Renovate Training and Education Center	3,000
	Complete Asia Trail	3,000
	Rebuild North Retaining Wall (GSB)	1,500
Smithsonian Environmental Research Center	Renovate Mathias Lab/Replace Trailers	16,750
	Realign Contee's Wharf Road	900
Smithsonian Astrophysical Observatory	Contribution to Giant Magellan Telescope	4,000
Smithsonian Tropical Research Institute	Replace Gamboa Laboratory Facilities and Upgrade Utility Infrastructure	<u>4,000</u>
TOTAL MAJOR PROJECTS		\$94,475

Other Revitalization Projects

These projects correct extensive and serious facilities deficiencies to materially extend the service life of systems. Unlike the major projects, these are smaller in scale, costing \$5 million or less, and usually involve capital repair or replacement of individual systems or components.

<u>Facility</u>	<u>Project</u>	<u>\$(000)</u>
National Museum of American History	Convert Reheat System	1,000
	Replace Switchgear	900
	Replace Motor Control Panel	830
	Refurbish East Wing Freight Elevator	650
National Museum of the American Indian	Replace Roof (CRC)	900
	Install Roof Fall Arrest System (Mall)	750
Donald W. Reynolds Center	Replace Flat Seam Copper Roof	900
Smithsonian Tropical Research Institute	Install Security Gates/Booths (Tupper)	1,500
Multiple Locations	Construction Supervision and Administration	5,900
	Misc. projects \$500,000 and under	<u>8,675</u>

TOTAL OTHER PROJECTS	\$22,005
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FACILITIES PLANNING AND DESIGN	\$20,270
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TOTAL REVITALIZATION	\$136,750
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NEW FACILITIES DESIGN/CONSTRUCTION

<u>Facility</u>	<u>Project</u>	<u>\$(000)</u>
National Museum of African American History and Culture	Construct Museum	<u>205,000</u>

TOTAL NEW FACILITIES	\$205,000
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REVITALIZATION PROJECTS

Major Projects:

PROJECT TITLE: Building Revitalization
INSTALLATION: Arts and Industries Building
LOCATION: Washington, DC

<u>FY 2012 COST ESTIMATE (Thousands of Dollars):</u>	\$20,000
<u>PRIOR-YEAR FUNDING:</u>	\$11,600
<u>FUTURE-YEAR FUNDING (FY 2013 – FY 2016):</u>	\$163,000
<u>LEGACY FUNDING:</u>	<u>\$30,000</u>
Total	\$224,600

BUILDING BACKGROUND:

The Smithsonian's Arts and Industries Building, built between 1879 and 1881, is a National Landmark and the nation's best-preserved example of 19th century World's Fair or exposition architecture. It was the second building built by the Smithsonian, after the Castle, and the first designed as a museum. For 30 years it was The National Museum, and thus the first home of the National Museum of Natural History, the National Museum of American History, the National Air and Space Museum, and the Smithsonian's art museums.

PROJECT JUSTIFICATION:

A leaking roof and failing, irreparable electrical and mechanical systems prompted the Regents to close the Arts and Industries Building to the public in January 2004. All staff and programs were relocated by January 2006. It is now closed to all but essential maintenance and security staff. Despite its physical condition, the building remains a valuable asset and an important link to our nation's history and the Smithsonian's past. Restoration and revitalization of the building presents an opportunity to bring new, innovative public programs to the Mall.

PROJECT DESCRIPTION:

The revitalization of the Arts and Industries Building will include the removal of the existing two-and-a-half-acre roof, restoration and augmentation of the historic roof trusses, and reconstruction of the roof to meet current safety and energy code requirements. All of the deteriorated, non-historic windows will be replaced. The brick and stone exterior will be fully repaired and restored. Floors and interior partitions that were added after the building opened and that have obscured its original, open character will be removed. Antiquated, failed, and failing equipment and systems will be replaced with efficient modern equipment and systems. Remaining hazardous materials in the building will be abated. The project presents a unique opportunity to demonstrate the integration of historic preservation and sustainable design, particularly since the building was designed in 1879 to take advantage of natural daylight and ventilation, and incorporated the

pioneering technologies of its day. The Smithsonian requests \$20 million in FY 2012 to complete renovation of the building structure and shell.

PROGRESS TO DATE:

A structural survey and analysis of the roof structure and Historic Structure Report, including documentation of existing building conditions, were completed in FY 2009. Those efforts yielded information that guided the recently completed design of the shell renovation. An initial phase of selective interior demolition and removal of hazardous materials was funded by the American Recovery and Reinvestment Act, as was an extensive restoration of the building's brick and stone exterior. A construction contract for the shell renovation will be in place before the end of the current fiscal year.

Concurrently, the Smithsonian is engaged in a program planning process to identify the best, innovative use of this landmark building and to explore the ways in which it can contribute to the achievement of the Smithsonian's 21st century mission.

IMPACT OF DELAY:

The previous lack of funding for major repair and modernization of the Arts and Industries Building has resulted in an empty, unusable building. With proper funding, this project has the potential to become a national model for the integration of preservation, sustainable design, construction and operation, as well as forward-looking public outreach. Funding delays would mean further prolonged closure of this prominent, much-loved building and would result in further deterioration of irreplaceable historic building fabric and the possibility of catastrophic building failure.

PROJECT TITLE: Renovate Carnegie Mansion
INSTALLATION: Cooper-Hewitt, National Design Museum (CHNDM)
LOCATION: Manhattan, New York

<u>FY 2012 COST ESTIMATE (Thousands of Dollars):</u>	\$6,975
<u>PRIOR-YEAR FUNDING:</u>	\$8,850
<u>FUTURE-YEAR FUNDING (FY 2013):</u>	<u>\$1,400</u>
Total	\$17,225

BUILDING BACKGROUND:

The 64-room Carnegie Mansion, designed by the architectural firm of Babb, Cook & Willard, was built between 1899 and 1902. It was the first private residence in the United States to have a structural steel frame and one of the first in New York to have a residential Otis passenger elevator (now in the collection of the Smithsonian's National Museum of American History). The Mansion was transferred to the Smithsonian in 1972 and the Museum opened there in 1976.

PROJECT JUSTIFICATION:

The Mansion requires interior and exterior renovation work. On the interior, the electrical distribution system and emergency systems (i.e., fire alarm, sprinkler and emergency egress) are in poor condition and do not meet current code requirements. The lighting system dates from the 1970s and does not meet the needs of a modern museum. These upgrades have been planned to coincide with a Museum-funded project to expand exhibition spaces. Many areas of the Museum have asbestos-containing materials (ACM), as documented in a 1992 study, which will be disturbed during the project and will require ACM abatement.

PROJECT DESCRIPTION:

Renovation of the Mansion infrastructure will include replacement of the electrical distribution system, an upgrade of the lighting system, abatement of asbestos/lead in areas affected by the renovation, upgrades to the fire alarm and sprinkler systems, security system enhancements, replacement of the building's main elevator, and modifications to emergency egress. These efforts will benefit from and be coordinated with a Museum-funded project to add gallery space on the third floor, relocate the Museum's Registrar and a ground-floor conservation laboratory, and restore historic finishes. Combining the renovation work with the expansion project will allow the project to be performed economically, with minimal additional impact to Museum operations. The Institution requests \$6.975 million in federal support in FY 2012 to continue the interior portion and begin the exterior phase of the Mansion renovation. Non-federal sources will provide more than 60 percent of the funding for this project.

PROGRESS TO DATE:

Design of the Mansion renovation project will be completed during the first part of FY 2011, with the actual renovation set to begin prior to the end of the fiscal year. The Museum moved its collections to an off-site storage facility in Newark in late FY 2009. Renovation work on the adjacent Miller-Fox House is under way and will be completed in FY 2011.

IMPACT OF DELAY:

The Mansion renovation will benefit from efficiencies related to completing this infrastructure work concurrently with the exhibit expansion project planned by the Museum. Aside from the cost savings to be realized by combining the projects, the Museum's electric, fire alarm, and sprinkler systems are not in compliance with current code requirements. A delay in starting this project will increase the risk of one or more system failures.

PROJECT TITLE: Replace Electrical System
INSTALLATION: National Air and Space Museum (NASM)
LOCATION: Washington, DC

FY 2012 COST ESTIMATE (Thousands of Dollars): \$750

PRIOR-YEAR FUNDING: \$8,329

Total \$ 9,079

BUILDING BACKGROUND:

NASM was built in 1976 to memorialize the national development of aviation and space flight. The 636,000-square-foot building preserves and displays artifacts, aeronautical and space flight equipment, significant historical data, and related technologies. The Museum hosted more than 7 million visitors in FY 2009 and is one of the most visited museums in the world.

PROJECT JUSTIFICATION:

The building and all its systems have been in operation since 1976. The electrical system is prone to failure, out of compliance with building codes, and severely overtaxed by electronic requirements that did not exist when the building opened. In addition, in 2004 NASM was designated as a shelter-in-place facility for natural and man-made emergencies, creating additional power demands from communications systems and ventilation fans. Some upgrades have been made in areas where equipment had totally failed, including the primary high-voltage transformers.

PROJECT DESCRIPTION:

The project replaces all high-voltage systems in the building, including the incoming feeder and switchgear; replaces the electrical equipment, risers and wiring that operate the mechanical systems; provides power to new distribution panels; upgrades the automation of distribution circuits; and replaces the emergency generator.

PROGRESS TO DATE:

Guided by the results of a 2006 study, all phases of the project will be completed before the end of 2010, except for correcting hot-neutrals within the electrical system and replacing electrical wiring in the floor throughout the building. This wiring distributes power for exhibitions and administrative areas. The Institution requests \$750,000 in FY 2012 to complete this final phase of the project.

IMPACT OF DELAY:

A delay in completing this project could increase the frequency of major electrical disruptions and result in the possible shutdown of exhibition and staff areas. This may impact the ability of NASM to effectively serve as a shelter-in-place facility for federal agencies and the Smithsonian.

PROJECT TITLE: West Wing Renovation
INSTALLATION: National Museum of American History (NMAH)
LOCATION: Washington, DC

FY 2012 COST ESTIMATE (Thousands of Dollars): \$11,500

PRIOR-YEAR FUNDING: \$11,000

FUTURE-YEAR FUNDING (FY 2013): \$37,500

Total \$ 60,000

PROJECT JUSTIFICATION:

This project continues the National Museum of American History (NMAH), *Kenneth E. Behring Center* modernization. All three public floors of the Museum's West Wing, comprising approximately 119,000 square feet, are part of this major renewal, which redefines the visitors' experience, and modernizes and clarifies circulation. The Museum's West Wing renovation, which is the next step outlined in the NMAH Master Plan dated February 2006, is guided by the report of the Blue Ribbon Commission on the National Museum of American History, dated March 2002.

PROJECT DESCRIPTION:

The scope of work for this project includes replacement of two zones of the HVAC system, the power-distribution system, fire-detection and alarm systems, life-safety egress, fire protection, and a staff elevator. In addition, the modernization will provide new exhibit space for exhibitions such as: *Sports and Entertainment, Music and Popular Culture, American Presidency, and First Ladies*. The Institution requests \$11.5 million in FY 2012 to continue construction.

PROGRESS TO DATE:

The design firm was selected in July 2009 and will complete the 35 percent design milestone during 2010. Construction is scheduled to begin in the second half of 2011.

IMPACT OF DELAY:

Delays to the West Wing renovation would increase the risk of elevator and mechanical systems failures and delay improvements needed to meet current fire-protection coverage and safety standards. The planned renovation will help minimize threats to the safety of the Museum's collections, visitors, and staff. Existing equipment and systems are at the end of their useful lives and will begin to fail at increasing rates, demand increasing maintenance staff time, and be more expensive to replace if the project is delayed.

In addition, a delay of the West Wing renovation could result in a breach of agreements with several major donors. This could put anticipated pledge payments at risk.

PROJECT TITLE: Revitalize Public and Non-Public Space
INSTALLATION: National Museum of Natural History (NMNH)
LOCATION: Washington, DC

FY 2012 COST ESTIMATE (Thousands of Dollars):

Continue HVAC/Utility System Replacement and Building Renovation	\$12,100*
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<u>PRIOR-YEAR FUNDING:</u>	\$238,970
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FUTURE-YEAR FUNDING (FY 2013+):

Ongoing HVAC replacement and code Improvements	<u>\$118,000*</u>
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Total	\$369,070
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* Does not include funding in Planning and Design account to complete future design of revitalization project.

BUILDING BACKGROUND:

The NMNH building opened to the public in 1910. The East and West Wings were added in the early 1960s. Two infill buildings were constructed in the original building's East and West courtyards in the late 1990s. The gross interior square footage of the building is approximately two million square feet. The building includes 300,000 square feet of public museum space, with collections, laboratory, office, and building services spaces filling the remainder. NMNH typically hosts six to seven million visitors annually, and is one of the most visited museums in the world.

PROJECT JUSTIFICATION:

The building's mechanical and electrical systems were installed in the early 1960s. At more than 40 years old, they are in need of major renovations. Breakdowns of the mechanical systems are frequent, repair parts are often difficult to procure, and the system does not provide the environmental air quality necessary for visitors or collections. The reliability of the electrical system is compromised by the deteriorated condition of the building's three main electrical switchgears, and the antiquated distribution system poses a safety hazard. In addition, main stairwells and auditorium exit corridors are dark, violating building codes, and are insufficiently served by smoke-evacuation fans. Many of the building elevators constantly break down, occasionally trapping staff and visitors. Asbestos-laden pipes in the utility tunnels are a potential health hazard and hamper proper maintenance and response to utility failures. The windows in the original portion of the building are deteriorated.

PROJECT DESCRIPTION:

Based on the master implementation plan completed in 1987, the Institution is struggling to complete a comprehensive renovation program in the NMNH building, which will replace the HVAC equipment, ductwork, electrical equipment and wiring, piping systems, and windows of the main building. Asbestos and lead will be abated or encapsulated; the fire-protection, communications, alarm, and emergency power systems will be upgraded; and storm-water systems and a

hazardous-chemical control facility will be installed. To date, \$239 million has been appropriated for the revitalization project.

The Institution requests \$12.1 million in FY 2012 to continue the renovation. Specific work will include: continuing replacement of the main building windows (\$1.0 million); completion of the HVAC renovations on the second floor of the West Wing (\$4.1 million); the start of HVAC renovations on the southeast section of the main building's ground floor and mezzanine (\$4.0 million); renovation of the attic HVAC and the Rotunda ceiling (\$500,000); and replacement of the East and West Wing roofs (\$2.5 million).

PROGRESS TO DATE:

Recently completed construction includes HVAC renovations of the West Wing basement, the southwest portion of the third floor of the main building, the west air tower and penthouse, Hall 12, and the main utility tunnels. Work continues on renovating 25 percent of the building's elevators, replacing the emergency generator and renovations to the East Court Basement/Ground/First Floor. During FY 2010, work began on the HVAC renovation of the Ground/First Floor of the West Wing, renovations to the Court Air Towers (Air Towers Phase II), renovations to the North Lobby/Vestibule (Main Building Windows Phase IV), and Modernizing the Collections Areas Electronic Security. Design work is complete for the Main Building's northeast and northwest ground floor HVAC renovation, and the Institution expects to award a construction contract before the end of October. The updated space and master plans are complete and will form the basis for sequencing future infrastructure renovations.

IMPACT OF DELAY:

If funding is delayed, building systems will continue to deteriorate and environmental conditions required for the Museum's collections and the visiting public cannot be maintained. In addition, the Museum's exhibit re-installation program would not proceed according to the planned schedule, causing the continued closure of several important exhibition areas to the public.

PROJECT TITLE: Upgrade Utility and Safety Infrastructure
INSTALLATION: National Zoological Park (NZP), Rock Creek and Front Royal
LOCATION: Washington, DC

FY 2012 COST ESTIMATE (Thousands of Dollars): \$10,000

PRIOR-YEAR FUNDING: \$27,658

FUTURE-YEAR FUNDING (FY 2013+): \$9,250*

*projection based on master plan

Total \$46,908

PROJECT JUSTIFICATION:

Much of NZP's current utility, safety, and fire-protection infrastructure is obsolete and failing, and does not meet the needs of the Zoo to protect and support animal, staff and visitor safety. Correcting deficiencies in water and electrical service mains and distribution is crucial in providing critical fire-suppression systems in many of the unprotected areas of the Zoo, and to provide adequate water for the animals. Improving perimeter containment fencing is necessary to meet American Zoo and Aquarium Association (AZA) standards as protection against animal escapes and unwanted intrusions.

PROJECT DESCRIPTION:

The Institution requests \$10 million in FY 2012 to install critical fire-protection and life-safety systems, at both the Rock Creek Park and Front Royal, Virginia facilities, including utility upgrades in Beaver Valley; upgrades to water, sewage, and storm-water management; perimeter containment fencing; power distribution system upgrades and smoke evacuation from animal buildings.

PROGRESS TO DATE:

The Institution has used previous funds to coordinate its Rock Creek and Front Royal utilities master plans and developed concept designs for upgrading underground utilities and fire-protection systems. Using the master plan, the Zoo is developing and implementing projects in priority order to address its infrastructure needs.

Through FY 2010, many critical infrastructure and fire-protection projects have been completed with federal funding, including funds from the American Reinvestment and Recovery Act. Projects include the replacement and/or upgrading of the medium-voltage electrical distribution system throughout the Zoo; new ductbank conduits, feeders, switches and transformers; replacing and/or upgrading the fire-protection water supply from Adams Mill gate to the Great Ape House (phases 1 and 2 of the Utility Master Plan); installing and/or replacing fire hydrants throughout the Zoo; installing upgraded fire-alarm, smoke-detection, and fire-suppression systems throughout all animal facilities at the Zoo; and installing central fire alarm-monitoring system and fire protection for several facilities at NZP-Front Royal. Designs for phased implementation of fire protection for remaining Front Royal facilities, as well as continued implementation of the utility master plans for both Rock Creek and Front Royal, are under way.

IMPACT OF DELAY:

A delay in completing this work would endanger the animals, visitors, and staff, and would hamper the care and safety of the live animal collections.

PROJECT TITLE: Renovate Training and Education Center
INSTALLATION: National Zoological Park (NZP)
LOCATION: Front Royal, Virginia

FY 2012 COST ESTIMATE (Thousands of Dollars): \$3,000

PRIOR-YEAR FUNDING: \$1,000

Total \$4,000

PROJECT JUSTIFICATION:

Discovering and understanding biological diversity and advancing scientific solutions for conserving wildlife cannot be achieved without significant creative collaboration. Toward that end, the Institution and George Mason University (GMU) signed a Memorandum of Agreement (MOA) in October 2008 to establish a collaborative education program in global conservation studies. The MOA commits both parties to provide an accredited educational program and facilities to house the program. This program will enhance and expand the NZP's long history of providing education and professional training for the next generation of conservation and science professionals, as well as provide much-needed, updated, code-compliant facilities to house educational and residential functions. The Smithsonian will use federal and trust funds to renovate and expand an existing structure for the educational facility; GMU will construct new residential and food service facilities on site via a ground lease with the Smithsonian and \$20 million in bond funding from the Commonwealth of Virginia.

PROJECT DESCRIPTION:

This renewal project renovates and expands an existing building (Building 701-0116) at the Front Royal site. The building (approximately 14,925 gross square feet) is comprised of two wings connected by a passage. One wing will be renovated for classrooms; the other wing will be demolished and replaced with a two-story wing (within approximately the same footprint) to house laboratories and offices. While the building footprint remains essentially the same, the total area will increase to approximately 25,400 gross square feet to accommodate the program, circulation requirements, and the constraints of the sloping site. The concept design provides the opportunity to install high-performance components that demonstrate sustainability, including a partial green roof, photovoltaic cells, and rainwater harvesting, which help advance the LEED-gold certification goal. The Institution requests \$3.0 million in FY 2012 to complete construction.

PROGRESS TO DATE:

A design contract was awarded in January 2010 and construction documents will be complete in December 2010. A multi-year funded construction contract is expected to be awarded in early 2011 using appropriated and privately raised funds.

IMPACT OF DELAY:

If the project is not funded, advancing the Smithsonian's science goal of making a substantial impact in the conservation and recovery of species and habitats will be significantly delayed. The Commonwealth of Virginia bond

financing for the GMU residential and food service components was approved in 2009, and the University expects to award a design-build contract in October 2010. The Smithsonian-Mason Global Conservation Studies program cannot begin without both partners' implementation of the needed facilities projects.

PROJECT TITLE: Asia Trail II — Elephant Trails
INSTALLATION: National Zoological Park (NZIP), Rock Creek Park
LOCATION: Washington, DC

FY 2012 COST ESTIMATE (Thousands of Dollars):

Construction, Phase II: Elephant Trails	\$3,000
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PRIOR-YEAR FUNDING:

Facilities Planning and Design	8,580	
Construction, Asia Trail Phase I	41,030	
Construction, Phase II: Elephant Trails	<u>31,240*</u>	
Subtotal	\$80,850	<u>\$80,850</u>
Total		\$83,850**

* Reflects the reprogramming of \$867,588 appropriated in FY 2006 for design of critical NZP life-safety projects.

** Does not include \$23.8 million in privately raised funds (\$7.5 million for Phase I; \$16.3 million for Phase II).

BUILDING/SITE BACKGROUND:

The NZP in Washington, DC, a National Historic District, was built in the 1890s and was expanded in the 1930s with such historic buildings as the stone Elephant House. The 167-acre NZP is now more than 120 years old and its age and popularity have taken a visible toll. The Zoo's physical environment has vastly deteriorated. More than half of the buildings have seriously compromised structural, mechanical, electrical, and fire and life-safety systems. During its last accreditation review, the American Zoo and Aquarium Association (AZA) stated: "It is critically important that forward momentum is maintained in all areas and on all levels at a pace that will see the Zoo complete its strategic plan, and facility renovations, as quickly as possible." The National Academy of Sciences' study of Zoo animal care and regular U.S. Department of Agriculture (USDA) inspections confirm this requirement.

PROJECT JUSTIFICATION:

The National Zoo is a leader among the few institutions that have a strong multi-disciplinary program focused on elephant management and reproductive studies, both on site and in the field. To continue this progress, a larger facility is needed to create a multi-generational herd that will enable the Asian elephants to live in a more natural social structure and thus encourage more normal behaviors and interactions among the elephants, while also promoting the overall health and welfare of the elephants held in captivity.

Standards for elephant care have changed drastically since 1930. As ethical concerns are raised about maintaining captive elephants, NZP must lead by example, providing a top-notch facility of sufficient size and flexibility to ensure both animal well-being and keeper safety, while providing an engaging and educational visitor experience. The arrangement of the elephant housing, flexibility in enrichment opportunities, and space for exercise are major issues influencing the health and welfare of the captive elephants. Furthermore, the birth of a male elephant in November 2001 increased the urgency for moving toward NZP's goals of housing and exhibiting elephants as recommended by current zoological standards. An adult

male elephant needs more space and stronger housing, and he and the keeper must be separated at all times. The current facilities do not meet those requirements.

PROJECT DESCRIPTION:

Phase II of the Asia Trail project will provide the larger complex that is needed to meet NZP's long-range commitment to the Asian elephant program. The new facilities for Elephant Trails will include renewal of the existing Elephant House and construction of a new elephant-holding facility. The project will encompass nearly 10 adjacent acres and provide adequate year-round housing, new exhibit yards, safe primary containment, an elephant trek, and heavily landscaped perimeters. An innovative series of elephant habitats will provide exercise for the animals as well as sensory stimuli outside of their daily routine. Large pools and multiple enrichment devices in the animals' indoor and outdoor enclosures will enable the elephants to exhibit behaviors currently restricted by space limitations. Accessible areas will let the public observe the elephants and keeper demonstrations, with new and exciting interpretive programs, including scientific research on elephants.

PROGRESS TO DATE:

The Zoo has completed construction on the first phase of Elephant Trails, which includes the new Elephant Barn addition, two exterior habitats, an Elephant Camp interpretive area, and the elephant trek. The next phase of work includes the interior renovation of the existing historic Elephant House and completion of the final exterior habitat area. Performance and schedule issues with the design-build contractor who installed the first phase of the work led the Smithsonian to terminate that contract and continue with another to complete the project. Corrective work and delays in schedule reduced the available budget to complete the intended design. The FY 2012 request for \$3 million will ensure that the final habitat and elephant pool can be built to animal care standards and will provide safe and adequate visitor viewing. The completion of the final phase of Elephant Trails is projected for 2013.

IMPACT OF DELAY:

A delay would seriously impair the Zoo's effort to improve the quality of life for the Asian elephants in its care, and place the overall elephant program at risk. Ultimately, a delay in renovating the elephant facility will ripple into subsequent projects intended to bring the Zoo's facilities into compliance with USDA and AZA standards, and to correct extensive infrastructure deficiencies identified throughout NZP.

PROJECT TITLE: Repair Structural Systems and North Road Retaining Wall,
General Services Building (GSB)
INSTALLATION: National Zoological Park (NZP), Rock Creek Park
LOCATION: Washington, DC

FY 2012 COST ESTIMATE (Thousands of Dollars): \$1,500

PRIOR-YEAR CONSTRUCTION FUNDING: \$5,957
(Design funding not shown)

FUTURE CONSTRUCTION FUNDING (FY 2013+): \$23,500

Total \$30,957

PROJECT JUSTIFICATION:

The General Services Building (GSB) houses numerous critical functions at NZP, including the animal nutrition commissary, maintenance and repair shops, and offices for safety, horticulture, exhibits, project management, engineering design and space for construction staff, as well as parking for staff and visitors. Recent studies identified critical structural deficiencies that, if not repaired, will cause structural failure and localized collapse. The structural deficiencies are responsible for cracks in the foundation walls that allow water into the commissary, which was cited by the USDA in November 2005 as a deficiency requiring immediate attention.

PROJECT DESCRIPTION:

This project will strengthen and repair structural deficiencies (e.g., cracked concrete, deteriorated steel reinforcement and degraded tie-back tension rods) in the GSB and in the retaining wall that supports the North Road, the major public and private thoroughfare through the Zoo. These extremely complex and disruptive repairs include the installation of structural shear walls and mezzanines for lateral stability, reinforcement of columns, underpinning of a portion of the foundation wall and waterproofing. In order to accomplish this, the GSB functions and occupants must be relocated during the course of a phased, two-year construction period. The planned fire-protection and life-safety upgrades that were previously identified as a separate effort are now incorporated into this structural renovation to minimize impact on the functionality of critical services. Prior-year funding was used to address the most immediately essential repairs to the GSB. During the course of design in 2008–2009, the Institution re-evaluated programmatic uses of the GSB with the view that all functions except the Commissary would need to be relocated during the construction period. Nearly all functions will be relocated temporarily into swing space for the duration of the phased construction. However, it was determined that the Vehicle Maintenance Branch, which services all Smithsonian vehicles and currently resides in the GSB, would best serve the Institution by a permanent relocation to Suitland, Maryland. Funded with \$4 million in FY 2010, the construction of the new facility in Suitland and the relocation of the vehicle maintenance function are under way. Funding for the GSB structural renovation and retaining wall reconstruction is requested in FYs 2012–2014.

PROGRESS TO DATE:

Repairs addressing the most immediate areas of structural concern were completed early in 2009. Design for comprehensive structural stabilization, fire-protection and life-safety upgrades of the GSB is substantially complete and design of the retaining wall reconstruction is under way. Some immediate repairs to the existing retaining wall are also in progress. Construction of the Vehicle Maintenance Branch facility is expected to be complete in early 2011. Upon completion of the relocation phase, the Institution expects to award the contract for the GSB and retaining wall work at the outset of FY 2012.

IMPACT OF DELAY:

Delay of the project will risk structural failure in the building and injury to staff or visitors. Deterioration of the building and retaining wall will accelerate, the amount of intervention needed to correct the problems will increase, and the costs will escalate. Until the work is completed, NZP will not be able to comply with the USDA requirement to stop water infiltration into the commissary.

PROJECT TITLE: Renovate Mathias Laboratory/Replace Trailers
INSTALLATION: Smithsonian Environmental Research Center (SERC)
LOCATION: Edgewater, Maryland

<u>FY 2012 COST ESTIMATE (Thousands of Dollars):</u>	\$16,750
<u>PRIOR-YEAR FUNDING:</u>	\$16,000
<u>FUTURE-YEAR FUNDING (FY 2013):</u>	<u>\$7,750</u>
Total	\$40,500

BACKGROUND:

SERC conducts long-term research addressing such issues as global climate change, the effects of nutrients/chemicals passing through our landscapes, maintenance of productive fisheries, changes to our environment from biological invaders, and protection of fragile wetlands and woodlands. SERC is situated on an approximately 2,650-acre site along the Rhode River on the shore of the Chesapeake Bay. The Center's laboratories are housed in the Mathias Lab and a series of dilapidated temporary trailers. The Mathias Lab itself is a converted dairy barn that has been modified in several phases over the years — the oldest portion of the building dates from 1935.

PROJECT JUSTIFICATION:

SERC needs to reconfigure existing laboratory and support space to achieve an integrated solution to three critical problems revealed by an analysis of the facility. First, SERC must eliminate the use of decrepit and unsafe trailers that provide 25 percent of the organization's laboratory space and 65 percent of its office space. Second, substandard laboratory and support space must be upgraded to eliminate unsafe conditions and improve operating efficiencies. Third, energy and maintenance inefficiencies must be eliminated to control operating costs.

PROJECT DESCRIPTION:

This project will replace all on-site temporary trailers with a 52,000-square-foot laboratory and support facility, and renovate the existing Mathias Laboratory to achieve code-compliant laboratory and support space. The fully integrated 70,300-square-foot facility will incorporate sustainable technologies and building methods to achieve improved functional relationships and reduced energy and maintenance costs. The Institution requests \$16.75 million in FY 2012 to continue construction.

PROGRESS TO DATE:

The Smithsonian awarded a design contract in March 2009 and the Institution anticipates a completed design by the end of FY 2010. In response to a recent request for quotation (RFQ) advertisement, 21 construction firms have expressed interest in bidding this project. Construction is expected to begin in mid-FY 2011.

IMPACT OF DELAY:

A delay in integrating SERC's laboratory and support space will increase the risks associated with use of the deteriorating trailers and delay the realization of energy and maintenance cost savings generated by this project.

PROJECT TITLE: Realign Contee's Wharf Road
INSTALLATION: Smithsonian Environmental Research Center (SERC)
LOCATION: Edgewater, Maryland

FY 2012 COST ESTIMATE (Thousands of Dollars): \$900

FUTURE-YEAR FUNDING (FYs 2014–2015): \$5,300

Total \$6,200

BACKGROUND:

SERC conducts long-term research addressing such issues as global climate change, the effects of nutrients/chemicals passing through our landscapes, maintenance of productive fisheries, changes to our environment from biological invaders, and protection of fragile wetlands and woodlands. SERC is situated on an approximately 2,650-acre site along the Rhode River on the shore of the Chesapeake Bay.

PROJECT JUSTIFICATION:

Contee's Wharf Road provides the only land access to the research center. It is an unpaved gravel road that presents a hazard to staff and visitors during the best weather conditions. Parts of the road were washed away during rain storms, making two-way traffic nearly impossible.

PROJECT DESCRIPTION:

This project will widen and realign the road to eliminate the dangerous passing areas and will also pave the road. The Institution requests \$900,000 in FY 2012 to begin construction.

PROGRESS TO DATE:

The re-alignment project is at the schematic design stage and construction documents are being prepared for review by the Maryland Department of the Environment. Design is scheduled to be completed in January 2011.

IMPACT OF DELAY:

Continued deterioration of Contee's Wharf Road would increase the risk to staff, visiting scientists, and the public who must use the road to access SERC's facilities.

PROJECT TITLE: Gamboa Development: Replace Laboratory Facilities
INSTALLATION: Smithsonian Tropical Research Institute (STRI)
LOCATION: Panama

FY 2012 COST ESTIMATE (Thousands of Dollars):

Replace Laboratory Facilities	\$4,000
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<u>PRIOR-YEAR FUNDING:</u>	<u>\$12,368</u>
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Total	\$16,368
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BACKGROUND:

STRI is the principal U.S. organization devoted to research in tropical biology. Both scientific and human welfare depend on a continuing commitment to research in tropical biology for such things as finding untapped tropical resources to add to the important supply of food, pharmaceuticals, and fiber already supplied from the tropics, and to develop a better understanding of how to avoid further ecological catastrophes such as drought, starvation, and flooding caused by deforestation and overpopulation of tropical regions.

STRI recently used trust funds to purchase 18 acres (formerly leased) from the Republic of Panama at a location in Gamboa. STRI also has custodianship of 156 acres of adjacent forest. Gamboa is the central location of STRI's terrestrial research and the departure point for the ferry ride to Barro Colorado Island (BCI) Nature Monument, another key research site over which STRI maintains custodianship. Gamboa is a unique location in that it is protected by geography from encroachment of civilization and pollution, and is adjacent to the 55,000-acre Soberania National Park, considered the most accessible moist forest in Central America and northern South America, where habitats and species are found that are not present at BCI. The availability of space, natural light, and the relative absence of air pollution have dramatically benefited STRI's experimental plant research program. This program and others like it are critical to understanding the role that tropical plants and soils play in global climate change models, and for enriching our knowledge of tropical biodiversity.

PROJECT JUSTIFICATION:

Future development at Gamboa will be further defined as part of the overall master plan for STRI, which is currently being updated. A key element of the plan will be to consolidate the Terrestrial Tropical Science program, from its current urban location to Gamboa, to take advantage of the excellent research conditions and more direct access to research sites. The research staff, currently located at three sites and in four different buildings, will be relocated to the Gamboa campus. STRI administrative staff, currently located in three buildings, will be relocated to the Tupper Center at the edge of Panama City, which will permit STRI to demolish or transfer approximately 48,000 square feet of old, expensive-to-maintain buildings in Panama City. This major consolidation will lead to an immediate improvement in administrative efficiency and will establish a critical mass of researchers in a single location, permitting improved flow of ideas and major equipment sharing, as well as shortening the distance to research sites.

PROJECT DESCRIPTION:

Anticipating the results of the master plan, the next step in developing the Gamboa site is the replacement of the Santa Cruz School to provide critical laboratory space for Terrestrial Tropical Science. The building has been unoccupied — and unoccupiable — for many years. A structural assessment determined that it would be more cost effective to replace the old facility with a comparably sized building made of concrete and/or steel, with low-maintenance, pest-free materials that meet the full requirements for use as a laboratory building. The Institution plans to construct a new building of approximately 40,000 square feet that will replace the space in the Santa Cruz School, as well as the space in other buildings in Gamboa and Panama City that STRI must return to the Republic of Panama. The new building will be slightly larger than the current space to accommodate the latest building codes and provide sufficient space for mechanical equipment. In addition to the building itself, the basic utilities infrastructure will need to be upgraded to support the building and future development of the site. Specific requirements include upgrading the potable water, storage and wastewater systems; securing the perimeter; installing a backup generator and transformer; creating parking spaces and a driveway; and improving the site drainage system.

For FY 2012, the Institution requests \$4 million to complete construction of the schoolhouse replacement for use as laboratory space, which includes the upgrade of site utilities and infrastructure. The Smithsonian will request future funding for additional site development at Gamboa, as defined by the master plan, and to complete the laboratory facilities replacement.

PROGRESS TO DATE:

STRI awarded a design contract and the 35 percent design has been completed. Construction is expected to start in early FY 2011.

IMPACT OF DELAY:

A further delay in developing the Gamboa site would hamper STRI's ability to consolidate terrestrial operations at Gamboa, with a resulting loss of research synergy and operational efficiency.

PROJECT TITLE: Design and Build the Giant Magellan Telescope (GMT)
INSTALLATION: Cerro Las Campanas Peak, Las Campanas Observatory
LOCATION: 100 km northeast of La Serena, Chile, at a site owned by Carnegie Institution for Science

FY 2012 COST ESTIMATE (Thousands of Dollars):

For SAO's 10% (minimum) share in GMT \$4,000

FUTURE-YEAR FUNDING (FYs 2013+):

\$64,000

Total \$68,000

(\$000s)		
	<u>Federal</u>	<u>Private</u>
FY 2012 Cost Estimate	\$4,000	0
Prior-Year Funding	0	\$3,000
Future-Year Funding	<u>\$64,000</u>	<u>\$29,000</u>
Total	\$68,000	\$32,000

BACKGROUND:

The Smithsonian Astrophysical Observatory (SAO) conducts research into the fundamental questions of astronomy and astrophysics. These range from the mysteries of the formation and evolution of planets, stars, black holes, galaxies and large-scale structures in the universe to those surrounding the dark matter and dark energy pervading the universe. SAO has helped develop some of the world's most sophisticated astronomical instruments to probe the universe with high resolution at wavelengths across the electromagnetic spectrum. SAO developed and operates ground-based telescope facilities in Arizona, Hawaii, and Massachusetts, and participates in research using the Magellan Telescopes in Chile. SAO also plays leading roles in several NASA missions. SAO is a leading center for theoretical and computational astrophysics, using complex numerical simulations to model the formation of the early universe and the evolution of galaxies and planets. In addition, SAO conducts a laboratory astrophysics program. The collaboration between Harvard and the Smithsonian is known as the Harvard-Smithsonian Center for Astrophysics (CfA).

PROJECT JUSTIFICATION:

Large telescopes drive the pace of astrophysical discovery. Ensuring SAO researchers' access to these large telescopes is essential for the Observatory to maintain its leadership in astronomy. The Giant Magellan Telescope will make the sensitive and high-resolution observations that address the most important research challenges in contemporary astrophysics. The design of the GMT and its instruments will be particularly well-suited to the interests and expertise of SAO observers. The joint CfA hopes to secure access to some 20–25 percent of the available observing time on the GMT (approximately 10 percent per observatory). Following the August 2010 release of the National Academy of Sciences' decadal survey on astronomy and astrophysics, it is clear that there is strong support for the construction of a large segmented optical telescope to be built by the United States. SAO seeks to be part of the winning collaboration by making a significant

contribution to the GMT. SAO was a financial leader in the early stages of the GMT project but has fallen behind the other partners, due to lack of funding. It is very important to signal to our GMT partners that we intend to fulfill our full partnership stake before construction is completed in 2017.

PROJECT DESCRIPTION:

The GMT is a segmented mirror telescope with an effective aperture of 24.5 meters. Its seven mirrors are each 8.4 meters in diameter. Six mirrors are arranged around a central mirror; all are polished to form one parabolic surface. The final surface accuracy will be one millionth of an inch. The GMT mirrors will be fabricated under contract by the University of Arizona at the Steward Observatory Mirror Laboratory facility in Tucson. The Smithsonian's FY 2012 contribution to the GMT will build toward its 10 percent minimum share in the GMT, as detailed in the signed Founders' Agreement dated March 20, 2009.

PROGRESS TO DATE:

Following a successful conceptual design review in 2006, the GMT project staff is in the design development phase, which is expected to be completed in 2011. The first of the 8.4-meter mirrors was cast in 2005; its final polishing is under way and the final testing of this first mirror will take place in November. The second primary mirror segment will be cast in the summer of 2011. Site testing at the Cerro Las Campanas Peak in Chile has been completed and the final site selected. Design study contracts for six candidate "first light" instruments have been awarded and work is under way. In mid-2011, three of these will be selected for further development and construction. A new "joint" development officer joined the GMT staff in early 2010 to coordinate joint private fund raising among the partners. With the official announcement of the University of Chicago's entry into the GMT project, the 10 partners of the GMT have committed approximately \$300 million of the telescope's projected \$688 million total construction cost.

IMPACT OF DELAY:

A delay in supporting SAO's participation in the GMT will increase the risk that SAO will not achieve its desired 10 percent share in the project before construction is complete. This could mean that SAO observers will not have sufficient access to the telescope to complete their research objectives and keep SAO at the forefront of astrophysics both nationally and internationally.

Other Revitalization Projects

PROJECT TITLE: Convert Reheat System
INSTALLATION: National Museum of American History (NMAH)
LOCATION: Washington, DC

FY 2012 COST ESTIMATE (Thousands of Dollars): \$1,000

PROJECT DESCRIPTION: The NMAH fourth and fifth floor interior and basement HVAC systems are designed as constant volume systems with steam reheats. The areas primarily served are collection storage rooms and conservation labs. Pipes, coils and all associated control devices are located in the ceiling space above these rooms and labs. The steam reheat coils on the fourth and fifth floors were replaced approximately 18 years ago. They are beyond their service life and must be replaced. Over time, the deterioration of the original existing piping and faulty valves has caused leaks, impacting the work environment and putting the Museum's collection at high risk of damage.

PROJECT TITLE: Replace Switchgear
INSTALLATION: National Museum of American History (NMAH)
LOCATION: Washington, DC

FY 2012 COST ESTIMATE (Thousands of Dollars): \$900

PROJECT DESCRIPTION: Currently, substations 1, 3, 7, and 8 do not meet the National Electrical Code (NEC). The NEC requires that switchgear protective devices, such as circuit breakers and relays, be able to withstand current amperage that they will experience in the event of an electrical fault. A study completed in 2007 revealed that protective devices in these substations cannot handle the amperage they will experience in the event of a fault. Because the substations are not code compliant, the result of a fault would be catastrophic. The switchgear would probably explode in the event of a phase-to-phase or phase-to-ground fault, resulting in equipment loss and full system failure.

PROJECT TITLE: Replace Motor Control Center Panels
INSTALLATION: National Museum of American History (NMAH)
LOCATION: Washington, DC

FY 2012 COST ESTIMATE (Thousands of Dollars): \$830

PROJECT DESCRIPTION: Motor control panels throughout the Museum are beyond their expected useful life. The panels have had to be modified over the years to keep them functioning, but replacement parts are no longer available. Many of the panels have deteriorated to the point where they have become a potential hazard to staff working in the area. The requested funds will be used to replace the panels, alleviating this life-safety concern and reducing the risk of system failures.

PROJECT TITLE: Refurbish East Wing Freight Elevator
INSTALLATION: National Museum of American History (NMAH)
LOCATION: Washington, DC

FY 2012 COST ESTIMATE (Thousands of Dollars): \$650

PROJECT DESCRIPTION: The East Wing freight elevator No. 8 was last refurbished in 1998. This project will fully refurbish the elevator with a state-of-the-art, microprocessor-based controller, with the latest in technology to optimize the freight system, as well as new reprogrammable intelligent software. A new solid-state, computerized AC vector drive will be installed, suitable for operation as specified and capable of providing smooth, comfortable acceleration, retardation and dynamic braking. Failing safety precautions, such as faulty door operations and avoidance of over-travel, will be corrected. In addition, the system will include up-to-date code requirements and standard features such as: fire service, independent service, attendant service, new bi-parting doors, load weighing and a card reader for security purposes. All these upgrades will ensure that NMAH can safely and securely move its collections as needed.

PROJECT TITLE: Replace Roof (CRC)
INSTALLATION: National Museum of the American Indian (NMAI)
LOCATION: Suitland, Maryland

FY 2012 COST ESTIMATE (Thousands of Dollars): \$900

PROJECT DESCRIPTION: The facility's membrane roof has developed leaks. The water infiltration creates the potential for mold to develop within the building, placing collections and staff at risk. This project will correct the leaks by replacing the roof.

PROJECT TITLE: Install Roof Fall Arrest System (Mall)
INSTALLATION: National Museum of the American Indian (NMAI)
LOCATION: Washington, DC

FY 2012 COST ESTIMATE (Thousands of Dollars): \$750

PROJECT DESCRIPTION: The building does not have a fall arrest system for staff or contractors performing routine maintenance, conducting inspections, or making repairs on the roof and other high-bay areas in the building. The Occupational Safety and Health Administration (OSHA) require such protection for workers exposed to vertical drops of six feet or more. This project will construct a fall arrest rigging system on the exterior and interior high-bay areas of the building.

PROJECT TITLE: Replace Flat Seam Copper Roof
INSTALLATION: Donald W. Reynolds Center (DWRC)
LOCATION: Washington, DC

FY 2012 COST ESTIMATE (Thousands of Dollars): \$900

PROJECT DESCRIPTION: The building's copper-seam roof has developed multiple leaks. The water infiltration will eventually damage the structure of the building and currently creates potentially hazardous conditions for staff and visitors. This project will replace the copper flat seam portion of the roof.

PROJECT TITLE: Install Security Gates/Booths (Tupper)
INSTALLATION: Smithsonian Tropical Research Institute (STRI)
LOCATION: Panama

FY 2012 COST ESTIMATE (Thousands of Dollars): \$1,500

PROJECT DESCRIPTION: Security at STRI's Tupper site has suffered over time as a result of changes to adjacent roadways. Roosevelt Avenue is now a high-speed roadway, making access and egress via the former main entrance to Tupper hazardous. In addition, the existing site perimeter security and access control present a risk to the security and safety of the complex. This project will consolidate parking, reconfigure the entrance and driveway at the rear of the compound, relocate security gates, and provide adequate, code-compliant access to the Tupper Complex for emergency vehicles.

PROJECT TITLE: Construction Supervision and Administration
INSTALLATION: Multiple Locations
LOCATION: Institution-wide

FY 2012 COST ESTIMATE (Thousands of Dollars): \$5,900

PRIOR-YEAR FUNDING (FY 2011): \$5,245

FUTURE-YEAR FUNDING (FY 2013): \$5,900

PROJECT DESCRIPTION: This request includes staff costs for permanent cost-estimating staff, the construction management staff required to supervise and administer construction contracts, as well as term and temporary staff required to perform specialized work associated with revitalization projects. A total of 48 FTEs will be funded from the \$5.9 million. The construction managers directly supervise construction contractors to ensure that quality work is performed safely. In addition, they resolve issues that arise during construction, negotiate change orders, approve payments, and perform other administrative functions as contracting officer's technical representatives (COTRs). These necessary "owner functions" are critical to ensure that quality work is completed safely, on time, and within budget.

This request also funds five contract specialists who support all aspects of the procurement process for acquiring the necessary contract services to execute the Capital Program. These five positions provide essential expertise to ensure the timely award of planning, design, and construction contracts for the Capital Program.

FACILITIES PLANNING AND DESIGN

Feasibility studies, needs assessments, and design for capital projects are required before site work can take place. This category includes all costs for contract facility master planning, preliminary and final design for all revitalization and construction projects, special studies, and a small amount for facility engineering, capital leveraging, and research activities, similar to operations at the Department of Defense and the National Aeronautics and Space Administration (NASA). The funding will enable development of project baselines, including costs, scope, and schedules, prior to receiving funds to perform the work.

In order to plan and design ahead of Capital Program execution, funding of 10 to 15 percent of the following year's program is required each year. The funding requested for FY 2012 will provide necessary planning and design to the 35 percent stage for most projects included in the planned FY 2014 program, and will complete design for projects planned for FY 2013. This will move the Institution closer to meeting the National Academy of Public Administration's (NAPA) recommendation that firm baselines be established before funding requests to provide more accurate cost estimates and to enable timely award of construction contracts upon receipt of future-year funding.

The Institution requests a total of \$20,270,000 for planning and design in FY 2012. These funds will be used to design several major revitalization projects at the National Museum of Natural History (\$2.5 million), the National Zoological Park (\$3.0 million), the Arts and Industries Building (\$5.0 million), and the Renwick Gallery (\$1.5 million) as well as to prepare designs for numerous smaller revitalization projects and master planning (\$8.27 million). This budget request will also enable the Smithsonian to prepare comprehensive master planning studies to guide future facilities decisions, and other studies to ensure more effective use of existing space.

If these essential resources are not provided, the Institution will be unable to proceed with vital planning and design activities to ensure the successful execution of the long-range Capital Program.

CONSTRUCTION PROJECTS

PROJECT TITLE: Plan, Design, and Construct the National Museum of African American History and Culture
INSTALLATION: National Museum of African American History and Culture
LOCATION: Washington, DC

(\$000s)		
	Federal	Private
FY 2012 Cost Estimate	\$205,000	\$101,500
Prior-Year Funding Execution	\$45,000	\$19,300
Future-Year Funding	0	\$129,200
Total	\$250,000	\$250,000

BUILDING BACKGROUND:

The National Museum of African American History and Culture Act, signed by President George W. Bush on December 19, 2003, established the newest museum within the Smithsonian Institution.

PROJECT JUSTIFICATION:

The purpose of the proposed action is to fulfill the mandate of the National Museum of African American History and Culture Act (NMAAHC Act), P.L. 108–184, enacted by the Congress on December 16, 2003. The law directs that the new Museum provide for the collection, study, and establishment of programs relating to African American life, art, history, and culture. To that end, the Museum will create and maintain permanent and temporary exhibits documenting the history of African American life during the periods of slavery, Reconstruction, the Harlem Renaissance, the civil rights movement, and other periods of the African American diaspora. The Museum will also provide for the collection and study of artifacts and documents relating to African American life, and foster collaboration with other museums, historically black colleges and universities, and other organizations to promote the study and appreciation of African American life and its impact on the nation and all of its people.

Section 2 of the NMAAHC Act outlines the findings of Congress as to why such a museum was needed. The findings of Congress were based in large part on the conclusions of the Presidential Commission, known as the NMAAHC Plan for Action Presidential Commission, in its 2003 study, *The Time Has Come: Report to the President and Congress*. This Presidential Commission stated that:

“... the time has come to establish the National Museum of African American History and Culture because the museum is important not only for African Americans but for all Americans. It is the only institution that can provide a national meeting place for all Americans to learn about the history and culture of African Americans and their contributions to and relationship with every aspect of our national life. Further, the museum is the only national venue that can respond to the interests and needs of diverse racial constituencies who share a common commitment to a full and accurate telling of our country’s

past as we prepare for our country's future. And, even more importantly, it is the only national venue that can serve as an educational healing space to further racial reconciliation."

PROJECT DESCRIPTION:

The 315,000-square-foot Museum will be built on a five-acre site, located on the National Mall near the Washington Monument. The site is bounded by Constitution Avenue and Madison Drive, between 14th and 15th Streets, NW. This prominent site has westerly panoramic views, sweeping from the White House grounds on the northwest to the Jefferson Memorial on the southwest. The National Mall and the Washington Monument are both listed on the National Register of Historic Places.

PROGRESS TO DATE:

The Smithsonian Board of Regents selected the Monument site for the new Museum building in January 2006. Transfer of the site from the National Park Service to the Smithsonian was completed in June 2007. The Cultural Resources Report (Section 106) and the "Tier 1" environmental impact statement (EIS) have been completed and pre-design services for "Master Facilities Programming" (Architectural Programming/Exhibitions Master Planning) were completed in October 2008. A design competition involving six invited architect-engineer (A/E) teams culminated in April 2009 with the selection of Freelon Adjaye Bond/SmithGroup as the A/E team for the Museum design. The Institution awarded an A/E design contract in early FY 2010. In parallel with the development of concept design, historic preservation consultations are ongoing and the draft environmental impact statement will be issued to the public in late 2010. Concept design submissions have been made to both the National Capital Planning Commission and the Commission of Fine Arts.

IMPACT OF DELAY:

The Museum is scheduled to open in late 2015 (FY 2016). A delay in funding would slow down or stop the design process. This would introduce schedule delays and probable increases to the overall estimated project costs.

FY 2012 GUIDANCE LEVEL BUDGET

BACKGROUND. OMB Memorandum M-10-19 requires agencies to submit a budget request 5 percent below the discretionary total provided in the FY 2012 column of the FY 2011 budget. As the following chart shows, the FY 2012 OMB guidance number is **\$71.8 million** below the FY 2011 request level, a **9 percent** reduction.

\$000s	<u>FY 2011</u>	<u>FY 2012 level in FY 2011 Budget</u>	<u>5% Decrease</u>	<u>FY 2012 OMB Guidance</u>	<u>Decrease from FY 2011 Request</u>
Salaries & Expenses	660,850	633,000			
Facilities Capital	136,750	131,000			
TOTAL	797,600	764,000	(38,200)	725,800	(71,800)

Under this reduction scenario, the Institution must still provide for the payment of salaries and benefits, including the pay raise at the level designated by the Administration, and necessary costs such as rent, utilities, postage, and communications. In FY 2012, the Institution requires \$15.7 million to meet these non-discretionary cost requirements. This would raise the decrease total required to meet the guidance level to **\$87.5 million, an 11 percent reduction**. The Institution cannot absorb these costs and continue to support the basic mission with which it has been entrusted. Because the Smithsonian's budget is largely spent on salaries and benefits (more than 90 percent at many museums), most of the reductions would have to be accomplished by abolishing more than 220 federal positions, with associated severance costs, thus creating years of unnecessary personnel management turmoil.

The Smithsonian is also in a unique position in considering its FY 2012 budget. The National Museum of African American History and Culture (NMAAHC) requires significant resources to keep it on schedule for a 2015 opening. This high national and institutional priority cannot be accomplished within FY 2012 funding levels. The Smithsonian has consistently held that it would be honored to assist the nation in managing and operating the NMAAHC, but to do so would require that the funds be added to the Institution's base funding levels.

The Smithsonian is entering an exciting and challenging time in its history. We have a new Strategic Plan that highlights four Grand Challenges — 1) Unlocking the Mysteries of the Universe; 2) Understanding and Sustaining a Biodiverse Planet; 3) Valuing World Cultures; and 4) Understanding the American Experience — and puts tremendous emphasis on broadening access to what the Institution can offer America and the world. We are launching a national campaign in the hope of greatly increasing the amount of private-sector money we raise. All of this depends on the sound base provided by federal funds, and the Smithsonian's ability to leverage appropriated dollars will be undermined by the funding provided at the guidance level.

In addition, the guidance level would be a major blow to the progress we have made in fixing our facilities over the last 10 years. The guidance-reduction levels would force the Smithsonian to eliminate an entire research department at the National Museum of Natural History, close the Kids' Farm and Aviary at the National Zoo, and close the Insect Zoo and Discovery Center at the Natural History museum. These are just a few examples of the damage that would be done at the reduced funding level.

If implemented, the guidance level budget would also have a negative impact on the tens of millions of people who visit the Smithsonian, both in person and on-line, every year. Our ability to provide access to our collections, our exhibitions, and our public resources would be impaired by the level of reductions required. Ironically, this would happen at a time when we have seen a dramatic increase in visitation (from 24 million to 30 million) in the past year and continuing in the current year. In the context of the current economic situation, the Smithsonian has great value for the American people. It is a resource open to all — whether in person or online — and provides to the general public and the scholarly community access to the historical treasures of America and the art and cultural wealth of the world. The following chart outlines the program reductions necessary to comply with the guidance level.

FY 2012 Federal Distribution of Reductions (\$ in Millions)

Categories	Reduction
Research	-7.1
Public Programs	-7.2
Information Technology	-7.1
Collections Management	-4.4
Management Operations	-5.2
Facilities Maintenance/Operations	-19.7
Facilities Capital	-36.8
Total	-87.5

GUIDANCE-LEVEL REDUCTIONS

A reduction of this magnitude would be catastrophic for Smithsonian research, public programs, and facilities operations, all of which affect our visitors. It would severely reduce the quality of the visitor experience and compromise the Smithsonian's reputation as the world's leading museum complex. To achieve these reductions, the Smithsonian will be required to make significant cuts in critical programs, which would reduce base funding and also result in more than 260 personnel reductions throughout the Institution.

This reduction will exacerbate the base erosion of the Institution's intellectual capital: its staff of curators, scientists, historians, and collections stewards. The reduction from the pay accounts will affect all Smithsonian operating units because their operating budgets are almost totally consumed by salaries and benefits costs. For example, the most visited museums in the world currently, on average, spend more than 90 percent of their annual Federal funding on salaries and benefits. Reductions of

the magnitude being requested would have an immediate effect on the Institution's ability to do research and describe that research in exhibitions and publications, and on its ability to steward its collections — our national heritage — properly. The following chart lists the largest museums and research centers and shows the percentage of salaries and benefits costs in their respective budgets.

Federal S&E Two Year Funds (\$s)	FY 2010 Budget	Salaries and Benefits	Other Costs	% of Salary to Total
National Air and Space Museum	18,243,600	17,719,698	523,902	97%
National Museum of American History	21,751,000	20,573,551	1,177,449	95%
National Museum of Natural History	44,953,000	41,567,540	3,385,460	92%
National Museum of the American Indian	32,190,000	25,591,890	6,598,110	80%
National Portrait Gallery	5,725,000	5,667,239	57,761	99%
Smithsonian American Art Museum	9,290,000	8,891,066	398,934	96%
Smithsonian Environmental Research Center	3,756,000	3,557,993	198,007	95%
National Zoological Park	23,190,000	22,091,366	1,098,634	95%

A failure to fund the mandated pay raises in the Smithsonian's Salaries and Benefits account would result in the continued loss of talented and dedicated employees. This reduction would exacerbate the continued erosion of the workforce that has, but for staff in new museums, already shrunk by 18 percent since 1993.

This reduction level would necessitate the following actions:

RESEARCH (-\$7,060,000)

Without research, the Smithsonian's vast collections are of little educational, cultural, or scientific significance. The Smithsonian is poised to make significant contributions to the nation's research efforts by focusing on its unparalleled collections, building on its existing strengths, and concentrating on projects of national importance. However, this guidance-level reduction will severely impair the Institution's Strategic Plan.

Specific unit reductions and impacts include:

- *Abolishing one research department and terminating the Caribbean Coral Reef program at the National Museum of Natural History (-\$1,238K)*
- *Delaying completion of the Submillimeter Telescope Array and reducing scientific research programs at the Smithsonian Astrophysical Observatory (-\$2,143K)*
- *Reducing research vessel operations and other critical scientific research at the Smithsonian Tropical Research Institute (-\$991K)*
- *Eliminating major research capacity for coastal ecosystems studies at the Smithsonian Environmental Research Center (-\$335K)*
- *Reducing critical research at the National Zoo (-\$304K)*

- *Closing the museum studies and reference library and eliminating a research support position at the Libraries (-\$397K)*
- *Making significant reductions in curatorial support for aviation history at the National Air and Space Museum (-\$515K)*
- *Reducing a majority of the operational support to Mpala (Kenya) Research Site (-\$141K)*
- *Reducing maintenance and replacement of Research Equipment (-\$161K)*
- *Reducing numerous positions, publications, initiatives, and projects that negatively impact research Institution-wide (-\$835K)*

Impact: These funding reductions will impair Smithsonian research across multiple disciplines and scale back research output, completion of research instrumentation, and planned collection acquisitions for research. The cuts to research will result in the loss of core competencies and have an immediate impact on collections (i.e., the loss of staff responsible for identifying the objects). Beyond their intrinsic value, the Institution's collections have value in establishing baselines against which the impact of national disasters (e.g., the Gulf of Mexico oil spill) can be measured; or in assisting federal agencies in identifying vectors of disease dissemination.

Targeted actions, such as plans to abolish a research department at the National Museum of Natural History, will result in losing more than 15 experienced research and research support staff personnel and a critical loss of competency. This loss will have great consequences on the Museum's long-term commitments to research and public service. Additional reductions from eliminating this research department are included the Collections Management Section (page 68). Also, a delay in completing the Submillimeter Telescope Array instrumentation will reduce the Institution's present advantage in the highly competitive submillimeter astronomy research arena.

Reduced funding will also undermine support for research throughout the Institution, collectively weakening the Smithsonian's ability to deliver high-quality products and services and making it more difficult to compete for outside funding. The cut to core research competencies will cripple the longitudinal research, for which the Smithsonian is noted, to evaluate environmental changes over time in coastal regions, including those in the tropics, which are key to understanding the effects of climate change. In addition to impacting biological collections, the research cuts will severely hamper whole areas of scholarship and oversight of aviation collections. Further, the loss of research support staff would undercut the Smithsonian Libraries system as a resource asset for museum and research center scholarship and reference services. Also, reductions would impair the Smithsonian's capability to provide expertise and research assistance that supports other Federal agencies, such as DoD, FAA, and the FBI.

Public Programs (-\$7,153,000)

As a steward and ambassador of cultural connections, the Smithsonian is in an exceptional position to engage people around the world and to bring Smithsonian exhibitions to a larger, nationwide audience. Through its research, collections, exhibitions, and outreach, the Smithsonian presents a wide range of cultural diversity. However, the proposed budget reductions will adversely affect the Institution's outreach mission.

Specifically, the reduction would include:

- *Terminating all temporary exhibits; closing the Insect Zoo and Discovery Room; and reducing the Repatriation program at the National Museum of Natural History (-\$1,200K)*
- *Closing the Bird Exhibit and the Kids' Farm Exhibit at the National Zoo (-\$1,352K)*
- *Eliminating the entire visitor services department and reducing several public programs at the National Museum of the American Indian (-\$1,611K)*
- *Reducing exhibit maintenance and exhibition/curatorial staff at the National Museum of American History (-\$846K)*
- *Eliminating public program positions and in-house fabrication positions at the National Air and Space Museum (-\$735K)*
- *Abolishing material handler and model making unit position at Office of Exhibits Central (-\$227K)*
- *Reducing funds for Latino programming, impacting numerous programs Institution-wide (-\$122K)*
- *Eliminating exhibition specialists and public programs staff supporting the Traveling Exhibition Services; Freer/Sackler; American Art; Cooper-Hewitt; Hirshhorn; African Art; and the Postal Museum; (-\$1,060K)*

Impact: The impact of the guidance-level funding would be felt far beyond Washington, DC. The Smithsonian's outreach programs span the United States, bringing traveling exhibitions, teacher training and school programs, and cultural events to thousands of people via the network of Smithsonian affiliations around the country. These initiatives bring the Smithsonian to citizens who may never be able to visit Washington, DC. They enhance local community life, introducing exhibits, educators, and scholars to cities and towns across the United States. Outreach is a cornerstone of the Institution's goal to make the Smithsonian the nation's museum, a trusted source of knowledge in history, art, and science, and a resource for students, teachers, and the general public.

As in the case of research, collections accessibility is a hallmark of the public service and outreach efforts of the Institution. The closure of permanent exhibits as well as the termination of all planned temporary exhibits would diminish the Institution's ability to interpret scholarship and make it more relevant and accessible to the public. The absence or curtailment of exhibits negatively impacts the visitor experience. The effect of the specified closures is particularly notable where youth are concerned.

With more than 60 million objects housed at the Museum Support Center, a cut to this budget would curtail public access to the facility, and sharply hamper our outreach to scholars and the public at large. A reduction to the Repatriation Program would require the Smithsonian to delay and diminish the legislated program to return remains and objects to Native American tribes.

At a time when "broadening access" is a key goal of the Institution's Strategic Plan, the reductions will hamper our ability to make our collections and research fully accessible to the public. The National Museum of the American Indian (NMAI) will sustain a particularly serious negative impact due to the elimination of the entire Visitors' Services Program (12 positions). As a result, the elimination of the program will reduce visitor engagement with Native people and thus diminish the overall visitor experience. Also affected at the NMAI would be the elimination of theater programs by Native playwrights and a reduction in the number of theater performances that could be staged. In addition, the elimination of outreach specialists at the Freer/Sackler Gallery will result in fewer outreach programs and reductions in services to the public. At the National Museum of American History, the reduction of digital and Web access programs will hinder the Museum's initiatives in broadening access to its collections and providing information to the public through the Web. Teachers, students, and the general public rely on Web access to obtain information and deepen their knowledge of American history; online webinars and virtual field trips and access to other online resources have greatly enhanced understanding of the American experience, which is another key Smithsonian Strategic Plan goal.

Reductions in exhibitions funding will affect both temporary exhibitions as well as the installation of permanent collections. Exhibitions are one of the most effective and time-honored ways in which we serve our visitors. Excellence in exhibitions can foster the desire to learn more about our world, its cultures, and its histories. For example, reductions will cause the Hirshhorn Museum to eliminate its *Directions* exhibition series, which features emerging and mid-career artists from around the world. Reductions will also force the Hirshhorn to close two or more galleries housing the Museum's permanent collections, due to lack of funds to prepare and install a rotation of works. The National Museum of African Art will be forced to reduce the number of temporary exhibits it showcases, with a likely decrease in visitation as a result.

INFORMATION TECHNOLOGY (-\$7,069,000)

The Information Technology (IT) program uses state-of-the-art, secure information systems to modernize financial, human resources, collections, education, and research processes.

The table below summarizes the reductions to the Information Technology budget:

Program/Activity	Reductions
Eliminate Desktop replacements	-\$2,838,000
IT Infrastructure consolidation	-\$2,736,000
Unit IT reductions	-\$1,495,000
Total	-\$7,069,000

Specific reductions include:

- *Eliminate Desktop Replacements (-\$2,838,000)* — The IT office replaces desktop computers and scientific workstations on an industry best-practice life cycle to increase reliability and improve the security of information systems. The guidance-level reduction would eliminate this necessary program.

Impact: The elimination of the desktop replacement program would result in accelerating, serious degradation of the Institution's basic workstations and impact both scientific research and overall productivity. Eventually, the Institution would not be able to function due to non-availability of today's most basic tool — the PC.

- *IT Infrastructure Consolidation (-\$2,736,000)* — Currently, both the Smithsonian Office of the Chief Information Officer and individual SI units provide desktop support services to Smithsonian staff. The Institution is identifying the specific IT infrastructure support services that should be consolidated under the Office of the Chief Information Officer and the staff throughout the Institution who are currently providing those services. The Institution will then develop a plan to consolidate IT support services, along with the level and type of staffing the Smithsonian will require.

Impact: The main objective of consolidation is to realize cost savings by reducing the number of IT staff throughout the Institution. With consolidation, the individual units will lose approximately 50 percent of total Institution-wide personnel dedicated to unit IT desktop support which is well below industry standards. This consolidation is expected to produce some efficiencies, as well as result in a degradation of service in light of the size of the staff reductions. After the consolidation, unit staff members will utilize the central IT help desk, which will provide support at a reduced but to-be-determined level. Where possible, OCIO will automate the delivery of services and utilize remote management techniques so as to minimize the adverse impact of IT staff reductions on IT service quality.

- *Unit IT reductions (-\$1,495,000)* — IT services, contracts, and IT/Web upgrades are reduced or eliminated at several units, including: the National Air and Space Museum (-\$90K); National Zoo (-\$200K); Tropical Research Institute (-\$40K); Museum Support Center (-\$15K); National Museum of American History (-\$224K); the National Museum of the American Indian (-\$618K); American Art Museum (-\$85K); and the Information Resources Management Pool (-\$223K).

Impact: Several units will be negatively affected by the reductions and eliminations of IT services and digitization projects. There also would be a loss of several experienced IT personnel in these reductions. A Smithsonian priority is to digitize the collections and make them accessible online. These reductions would be a major step backward in meeting this Strategic Plan objective.

COLLECTIONS MANAGEMENT (-\$4,440,000)

Strengthening collections stewardship is a high strategic priority to ensure the vitality and accessibility of the Smithsonian's vast and diverse collections. The Collections Care Initiative provides essential resources to meet professional standards of collections care, address the highest priority collections management needs throughout the Institution, and ensure the longevity and availability of the National Collections. In FY 2010, the Smithsonian conducted an Institution-wide collections assessment adapted from a survey tool used by the National Museum of Natural History. The collections assessment addresses specific deficiencies and substandard aspects of collections care, and makes recommendations to improve the care to an acceptable level. However, the guidance-level reductions would severely impact the recent progress the Institution has made in this area. Specific unit reductions and impacts include:

- Abolishing one department at the National Museum of Natural History (-\$1,600K)
- Reducing Institutional funding for collections care (-\$617K)
- Eliminating Cataloguing Department positions and contractor support at the Smithsonian Institution Libraries (-\$500K)
- Eliminating curatorial support for various NMAH collections (-\$392K)
- Eliminating new acquisitions funding and reducing collections management support at the National Museum of the American Indian (-\$235K)
- Eliminating collections acquisitions funding at the National Portrait Gallery (-\$287K)
- Reducing conservator positions at the Museum Conservation Institute (-\$186K)
- Reducing support to collecting units at the Museum Support Center (-\$176K)
- Reducing collections management support at Freer/Sackler, Cooper-Hewitt, Hirshhorn, American Art, and the Air and Space museums (-\$447K)

Impact: The guidance-level reduction to collections care will significantly limit the Smithsonian's ability to comply with the Administration's stated priority "to ensure the appropriate stewardship and management of federal scientific collections which play a critical role in the nation's research infrastructure." Collections serve

as the foundation of Smithsonian research, education, and outreach (including exhibitions). Stewardship of collections is a key component of the Smithsonian's mission and a core priority of the Smithsonian's Strategic Plan. However, together with the proposed cuts in research, education, and outreach, the overall stewardship of collections will be adversely affected by the guidance-level reductions.

We have gained ground in the past few years with increased funding for collections care and preservation. However, the proposed level of reductions will dramatically slow the Smithsonian's progress in strategically addressing Institution-wide critical collections care needs, thereby preventing us from reaching the Smithsonian's overarching goal of improving the preservation and accessibility of collections that are vital to current and future scholarly research, education, and outreach.

Reductions in funding will have a negative impact on our ability to ensure the proper stewardship of collections through appropriate collections management, including collections documentation, inventory, preservation, conservation, and storage. The reductions will undermine the improvements in collections stewardship that we have recently begun to make, thanks to improved collections care funding in the past several fiscal years. Specifically, the effects of the guidance-level reductions would include:

- Abolishing a department in the National Museum of Natural History, resulting in the significant reduction of more than 20 experienced personnel and a critical loss of competency that will adversely affect the management of some of the nation's most important collections
- Reducing collections care funding, thereby hindering our efforts to specifically address collection care deficiencies identified during the Smithsonian-wide collections assessment, including cryo-materials and time-based media, anthropology, mineral sciences, paleobiology, medical history, film, sculpture, and textile collections, as well as decorative and graphic arts, works on paper, and manuscripts. Many of these collections are at risk of loss or permanent damage if we do not act now
- Reducing collections care funding for collections storage, limiting the Smithsonian's ability to replace and update obsolete cabinetry and thus impeding our efforts to store collections under optimal conditions
- Eliminating the National Portrait Gallery's collections acquisition funding so that the Gallery will be increasingly unable to adequately build its permanent collections
- Reducing unit collections management funds to the point that resources are insufficient to support the museums' ongoing efforts to build, document, and preserve their permanent collections, present exhibitions, and develop public programs based on collections

MANAGEMENT OPERATIONS (-\$5,247,000)

An effective and efficient management operation is key in providing the exemplary service needed to support the Smithsonian's mission. The guidance-level reduction will reduce fundraising support for the National Museum of African American History and Culture (NMAAHC) (-\$1,000,000) and also reduce administrative staff and support (e.g., travel, training, awards, supplies) Institution-wide (-\$4,247,000)

Impact: The reduction will impact NMAAHC's membership campaign contract renewals and upgrades, which is an integral and crucial component in securing the resources needed to build and develop the Museum. NMAAHC continues to use its federal fundraising resources to support its membership program. The purpose of the membership campaign is two-fold: to generate resources needed from the private sector to reduce the burden on the federal budget, and to increase the public's awareness of the existence of the Museum. This reduction will slow momentum in the NMAAHC's membership program and could impact the planned opening of the Museum in 2015.

The large reduction in administrative staff and support will severely impact virtually every museum and research center. The reduction in travel will definitely harm the research, collections, education, and outreach programs of the Institution. Much of the success of the Smithsonian involves face-to-face contact with researchers and other clients. The reduction in training and performance awards, and the freezing of promotions, will certainly have a negative impact on personnel morale, negate the opportunity to properly recognize and reward staff for outstanding performance, and be contrary to the Office of Personnel Management guidance. This reduction will also reverse some of the progress we have made in improving governance and internal controls.

FACILITIES OPERATIONS AND MAINTENANCE (-\$19,745,000)

The facilities strategic plan objective is to operate, maintain, and ensure a safe, secure, and healthy physical environment for the public and workforce.

The Smithsonian has made steady progress over the last several years in the revitalization and maintenance of Smithsonian facilities. However, this reduction scenario would fail to provide the Institution with adequate resources to continue these efforts and would be a step backward in this effort.

The following chart summarizes the impact of the guidance-level reduction in funding for facilities operations and maintenance:

Program/Activity	Reduction
Security	-\$1,209,000
Facilities Maintenance	-\$18,000,000
Unit Facilities	-\$536,000
Total	-\$19,745,000

- *Security funding reduced as a result of the implementation of the new strategic security plan (-\$1,209,000).*

A new strategic security plan was implemented in FY 2010 that enabled the Institution to move to a security force with greater presence in museums, increased supervisory positions, and more clearly defined advancement potential. The Institution received increases in FY 2010 and FY 2011 to implement the new security structure over a two-year period. The Institution now plans to return 80 percent of the increases received, while still maintaining a greater security presence. The Institution was able to achieve these results by creating a hybrid force of unarmed contract security officers at lower-risk security posts. The implementation of this new security structure will allow the Institution to return to prior-year funding levels, resulting in a return of -\$1,209,000.

Impact: The implementation of this new security plan should enable the Institution to return to prior-year funding levels, resulting in a return of -\$1,209,000. However, there are potential risks involved in this strategy, as detailed below:

- Contract costs could increase during the life of the contract
 - Staffing levels in the plan assume acceptable levels for day-to-day operations and will make unplanned exhibits/events more difficult to manage
 - Staffing shortages for major emergencies/incidents are possible
- *Maintenance reduced to about one-half of the \$100 million requirement (-\$18,000,000)*

Program/Activity	Reduction (\$\$)
Reduced maintenance contracts	-4,500,000
Reduced maintenance of security systems	-1,100,000
Elimination of maintenance and minor repair projects	-7,750,000
Reduced maintenance staffing	-4,650,000
Total	-18,000,000

Impact: A reduction of -\$18,000,000 will erase most of the progress the Institution has made over the last several years in funding for facilities maintenance. This cut will devastate the Institution's ability to maintain its facilities and force a return to the "pay now" versus "pay later" situation from which we are only now beginning to recover. Critical achievements made to date will be reversed and the backlog of deferred maintenance will grow exponentially. This level of reduction will eliminate funding for a broad range of work, including maintaining more sophisticated mechanical equipment, energy efficiency efforts, and health/safety-related projects. The continued degradation of building systems will result in an increase in emergency versus planned repairs, escalating capital repair requirements, and an increased

likelihood of critical equipment failures. In turn, these failures would hamper the Institution's ability to provide safe conditions for collections, staff, and visitors, as well as to provide continued access to Smithsonian galleries, bathrooms and walkways. Other, more long-term implications of a permanent reduction to maintenance funding include:

1. Potential damage to the collections and higher risk of theft or damage, due to the Institution's inability to provide a safe and secure environment for their preservation
2. Increased potential for damage to buildings due to flooding and fire if critical protection systems fail
3. Potential collateral injuries to the public and staff, along with the associated litigation and adverse publicity
4. Significant increase in energy costs as system efficiencies degrade
5. Major increases to Facilities Capital Revitalization requirements

Impact: Reduced maintenance contracts (-\$4,500,000)

The following contracts will be reduced or eliminated:

- Eliminate Roof Maintenance contract
- Eliminate SI-wide rollup/mechanical door contract
- Eliminate SI-wide smoke damper contract
- Eliminate SI-wide hardscape contract
- Reduce Udvar-Hazy Center O&M contract by 50 percent
- Reduce Herndon O&M contract by 50 percent
- Reduce National Zoo's HVAC/Mechanical/Life-Support Systems contract by 50 percent

Impact: Reduced maintenance of security systems (-\$1,100,000)

Although reductions in the Office of Protection Services (OPS) budget were avoided to minimize overall risk to Smithsonian Institution (SI) staff, visitors, facilities, and collections, these maintenance reductions will still have a significant impact on the security of the Smithsonian. The following will be reduced or eliminated:

- Replacement and/or upgrade of control room equipment, DVR and CCTV software/hardware, motion detectors in facilities, CCTV, and Card Readers
- X-ray machine maintenance contract, replace X-ray machines, CEIA magnetometer maintenance
- Annual IT security analysis and audit
- Vehicle operable crash barrier maintenance
- Security maintenance repair and minor alteration projects
- Horticulture for the security planters

Impact: Elimination of Maintenance and Minor Repair Projects (-\$7,750,000)

Under the guidance-level reduction, the following planned projects for FY 2012 will not be accomplished:

Museum/Unit	\$000s
<i>Cooper- Hewitt, National Design Museum</i>	\$ 142
<i>Freer Gallery of Art</i>	\$ 128
<i>Herndon Facilities</i>	\$ 230
<i>Hirshhorn Museum and Sculpture Garden</i>	\$ 259
<i>National Air and Space Museum</i>	\$ 600
<i>National Museum of American History</i>	\$ 777
<i>National Museum of the American Indian — Mall</i>	\$ 200
<i>National Museum of the American Indian — George Gustav Heye Center</i>	\$ 197
<i>National Museum of Natural History</i>	\$ 989
<i>National Zoological Park — Front Royal, VA</i>	\$ 185
<i>National Zoological Park — Rock Creek Park</i>	\$ 980
<i>Quadrangle</i>	\$ 102
<i>Renwick Gallery</i>	\$ 60
<i>Donald W. Reynolds Center for American Art and Portraiture</i>	\$ 385
<i>Smithsonian Astrophysical Observatory</i>	\$ 350
<i>Smithsonian Environmental Research Center</i>	\$ 320
<i>Smithsonian Institution Building (Castle)</i>	\$ 210
<i>Smithsonian Tropical Research Institute</i>	\$ 299
<i>Suitland Collections Center (Garber, Cultural Resources Center, Suitland Support Facility & Museum Support Center)</i>	\$ 821
<i>Steven F. Udvar-Hazy Center</i>	\$ 516
Total	\$ 7,750

Impact: Reduction in hiring plan for facility maintenance staff (-\$4,650,000)

In addition to the maintenance contracts listed above, the Institution would also be forced to reduce the existing hiring plan, eliminating at least 50 utilities system repair operators. Consequently, onboard resources would be spread thinner, resulting in increased response times, reduction in preventive maintenance schedules, potential for increased safety mishaps due to shortage of staff, and increased overtime costs to provide shift coverage.

- **Unit facilities operations reduced (-\$536,000)** — Under the guidance-level reduction, units outside of the Washington, DC area must provide for their own facilities services, less security. The reduction would impact the American Indian Heye Center in New York City (-\$196K); Cooper-Hewitt in New York City (-\$200K); and the Smithsonian Tropical Research Institute (STRI) in Panama (-\$140K).

Impact: The guidance level would significantly impact operations at the Heye Center by eliminating a facilities management laborer position; closing the Center on Thursday evenings; and reducing support to the capital program. Operations at Cooper-Hewitt would be negatively impacted with the termination of a leased storage facility; reduced security staff overtime; and reduction in facilities cleaning supplies. Operations in Panama would be impaired by the reduction of both facilities maintenance and operations support. These reductions would put STRI at risk of being unable to adequately meet the requirements that both the Panamanian government and the U.S. Government have placed on the Institute.

FACILITIES CAPITAL GUIDANCE LEVEL (\$-36,750,000)

The following table displays the resources requested and the reductions that would be required in specific Facilities Capital projects under the guidance-level reduction budget:

FY 2012 Facilities Capital (\$ in Millions)

	FY 2012 Requirements	FY 2012 Guidance
Arts and Industries	20.0	13.5
Cooper-Hewitt	7.0	7.0
Air and Space	0.8	0.8
American History	11.5	11.0
Natural History	12.1	5.5
National Zoo	17.5	13.5
Environmental Research Center	17.6	17.4
Tropical Research Institute	4.0	4.0
Astrophysical Observatory	4.0	0
Projects under \$5 Million	22.0	16.1
Planning & Design	<u>20.3</u>	<u>11.2</u>
Total	136.8	100.0
African American History & Culture	205.0	205.0

The following projects would be deferred at the guidance level (-\$36,750,000):

Location	Project Description:	Amount
Arts and Industries	Renovate A&I shell project	-\$6,500,000
American History	West Wing PSRP III — cash flow (\$0.5M)	-\$500,000
Natural History	Renovate 2nd floor (\$4.1M); replace East/West Wing roof (\$2.5M)	-\$6,600,000
National Zoo	Asia Trail II (\$3.0M); upgrade animal holding facilities (\$1.0M)	-\$4,000,000
Environmental Research Center	Renovate Mathias Lab – contingency funds	-\$200,000
Astrophysical Observatory	SI share of Giant Magellan Telescope project	-\$4,000,000
Projects under \$5 Million	Construction Salaries and Administration/ Miscellaneous Facilities Capital Repair (Other Revitalization)	-\$5,850,000
Planning and Design	A&I Core (\$5M); Renwick (\$1.5M); Castle Master Plan (\$1M); NASM Master Plan (\$0.5M); Misc projects (\$1.1M)	-\$9,100,000
Total		-\$36,750,000

Impact on Facilities Capital projects at the reduction level:

The guidance-level reduction would be a severe blow to the years of progress the Institution has made in improving the overall facility conditions of the numerous, aged buildings. Specifically, the Institution would lose momentum in renovating the Smithsonian's largest building, the National Museum of Natural History (NMNH), by delaying replacement of NMNH's East/West Wing roofs and renovation of the 2nd floor West Wing — leaving staff in temporary space and major collections with extremely limited access.

The reduction level also eliminates funding to complete the National Zoo's Asia Trail II, which delays compliance with animal care standards for critically endangered Asian elephants.

The reduction level also eliminates contingency funds from the Smithsonian Environmental Research Center's Mathias Laboratory project, which is essential to advance research and ensure the safety and protection of the Center's staff, Fellows, volunteers, and visitors.

In addition, the reduction eliminates funding for the Giant Magellan Telescope at an inopportune time because greater telescope time will be allocated to those with earlier financial contributions to construction of the telescope.

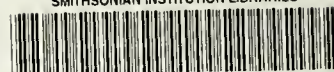
Finally, the reduction postpones a large number of critical, smaller projects; delays design efforts for the Arts and Industries Building core at least one year, straining efforts to prevent further infrastructure degradation; and delays the Renwick Gallery's revitalization design work on a facility that has already experienced multiple utilities failures.

The following table displays the FY 2011 base program level, the resources requested for FY 2012, and the specific reductions in the Salaries and Expenses and Facilities Capital Program accounts at the guidance level.

(\$s in millions)

	FY 2011 Base	FY 2012 Request	FY 2012 Guidance
Non-Discretionary Costs			
<i>Pay Increases</i>		14.4	14.4
<i>Rent/Utilities/Commo/Other Increases</i>		<u>1.3</u>	<u>1.3</u>
Total Fixed Costs		15.7	15.7
Program Categories			
<i>Excellent Research</i>	98.7	0.0	-7.1
<i>Broadening Access (Digi/Web support; Public Programs; Exhibitions)</i>	78.2	2.2	-7.2
<i>Revitalizing Education</i>	18.6	2.0	0.0
<i>Strengthening Collections</i>	59.8	7.0	-4.4
<i>Facilities Maintenance</i>	72.5	0.0	-18.0
<i>Facilities Operations</i>	139.1	0.5	-0.5
<i>Security (including revised security plan)</i>	69.8	-1.2	-1.2
<i>Information Technology (including IT consolidation)</i>	56.5	-2.7	-7.1
<i>Management Operations</i>	<u>67.6</u>	<u>0.0</u>	<u>-5.2</u>
Total S&E Increases/Decreases		7.8	-50.7
Total Salaries & Expenses	660.8	684.3	625.8
FACILITIES CAPITAL			
Facilities Capital	136.8	136.8	100.0
Total Facilities Capital	136.8	136.8	100.0
Total, All Accounts (less NMAAHC)	797.6	821.1	725.8
Facilities Capital (NMAAHC)		<u>205.0</u>	<u>205.0</u>
Total, All Accounts (with NMAAHC)	797.6	1,026.1	930.8

SMITHSONIAN INSTITUTION LIBRARIES



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